



LOAD CELL & TORQUE

A Measurement Can Change the World



Customize & High Technology



DACELL

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Company Information

We realize the best corporation in the field of new generation of weighing and measuring products.

DACELL is providing ultra-precision load cells and various weighing and measuring products, which can be used in various fields of industries, based on 28 years of experiences in manufacturing of weighing and measuring products and with own superior technologies.

We will exert every efforts to provide customers with total solutions for a field of load cells and as well as advanced weighing and measuring field by developing of high quality products with the international competitiveness.



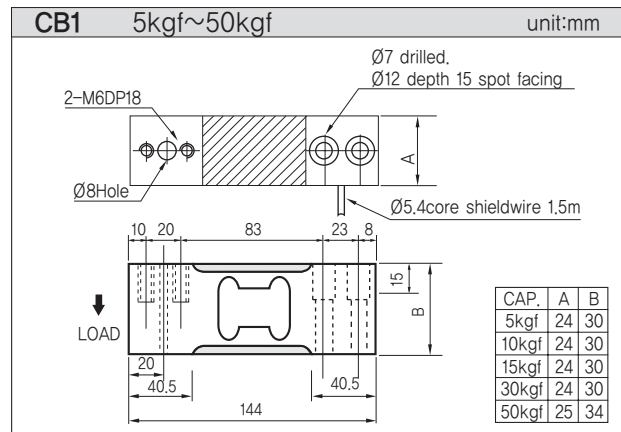
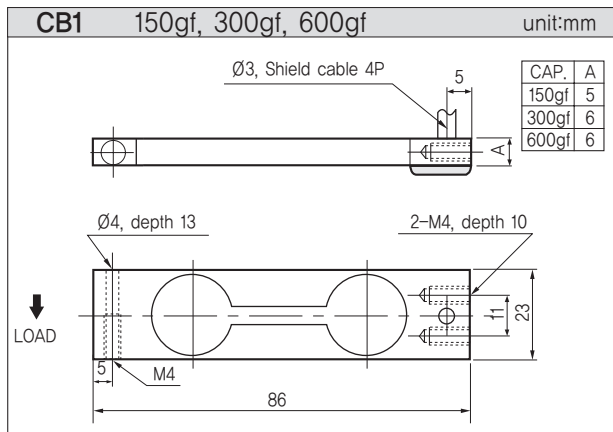
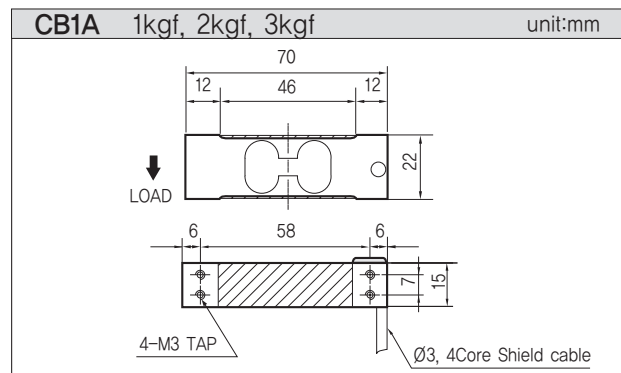
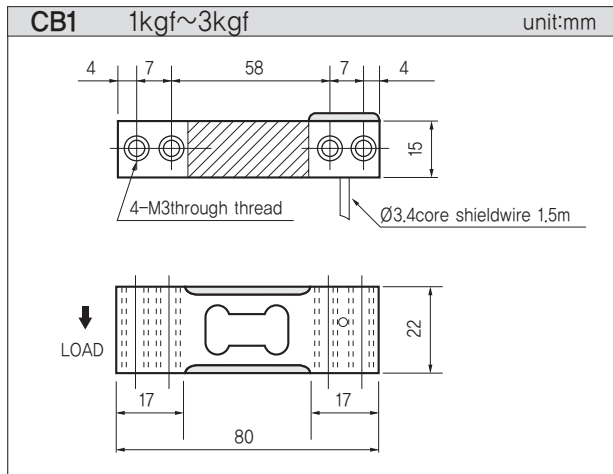
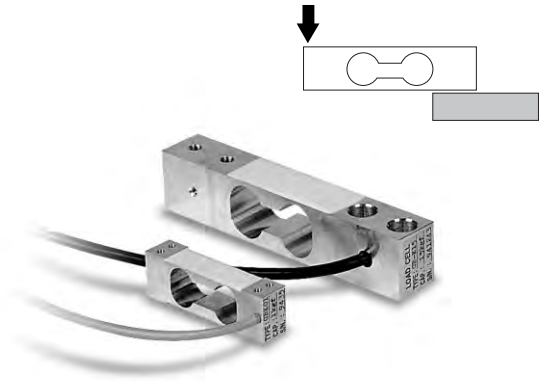
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Bending Beam Load Cells

>Model CB1, CB1A

This strain gage load cell has developed newly as a electronic "Scale" for commercial purpose, with the charatistics of high accuracy and low price. Compared with another mechanical means, this load cell provides small displacement. Due to electronic output, it is easy to treat various treatment. Protection Class IP65



>SPECIFICATIONS

Specifications	Accuracy		
Rated capacity(R.C)	150gf, 300gf, 600gf (1.470N, 2.942N, 5.884N)	1, 2, 3kgf (9.807N, 19.61N, 29.42N)	5, 10, 15, 30, 50kgf (49.03N, 98.07N, 147.1N, 294.2N, 490.3N)
Rated output(R.O)	1.2mV/V±1%	1mV/V±1%	1.5mV/V±1%
Nonlinearity	0.02% R.O.	0.02% R.O.	0.02% R.O.
Hysteresis	0.02% R.O.	0.02% R.O.	0.02% R.O.
Repeatability	0.02% R.O.	0.02% R.O.	0.02% R.O.
Creep	0.03% R.O./20MIN	0.03% R.O./20MIN	0.02% R.O./20MIN
Zero balance	±5% R.O.	±5% R.O.	±5% R.O.
Terminal resistance, input	420±30Ω	420±30Ω	420±30Ω
Terminal resistance, output	350±2Ω	350±2Ω	350±2Ω
Insulation resistance	2000MΩ	2000MΩ	2000MΩ
Temperature range, compensated	0~+40℃	-10~+50℃	-10~+50℃
Temperature range, safe	-10~+50℃	-10~+50℃	-10~+50℃
Temperature effect, on zero balance	0.03% R.O./10℃	0.03% R.O./10℃	0.03% R.O./10℃
Temperature effect, on rated output	0.02% LOAD/10℃	0.02% LOAD/10℃	0.02% LOAD/10℃
Excitation recommended	10V DC	10V DC	10V DC
Safe overload	150% R.C.	150% R.C.	150% R.C.
Cable length	Ø3, Core shield cable, 1.5m	Ø3, Core shield cable, 1.5m	Ø5, Core shield cable, 1.5m
Allowable maximum Platform size	Ø80	200 X 200mm	300 X 300mm
Weight	200g	300g	400g
Wiring Information	EXC+ : RED, EXC- : White, SIG+ : Black, SIG- : Green		

★Specifications are subject to change without notice.

Bending Beam Load Cells

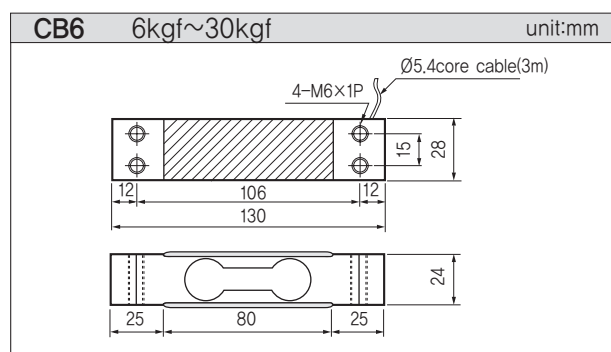
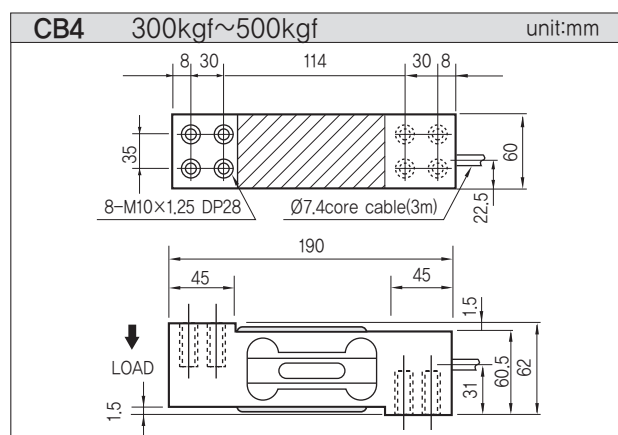
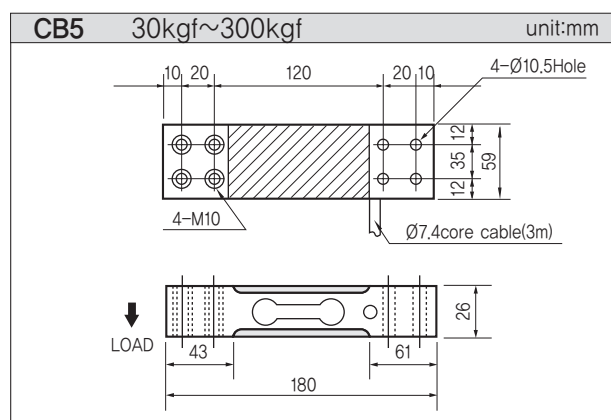
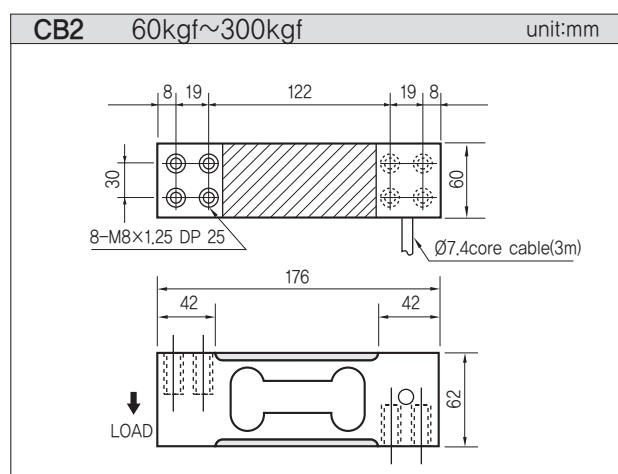
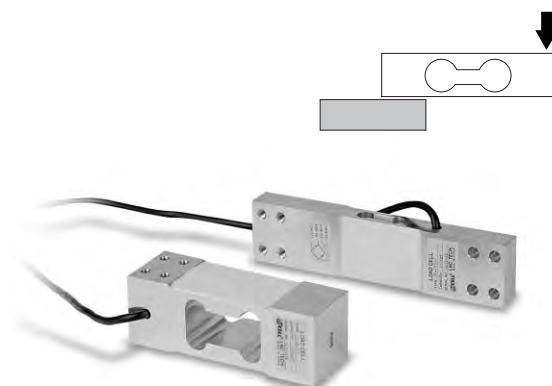
>Model CB2, CB4, CB5, CB6

This strain gage load cell has developed newly as a electronic "Scale" for commercial purpose, with the charatestics of high accuracy and low price.

Compared with another mechanical means, this load cell provides small displacement.

Due to electronic output, it is easy to treat various treatments.

Protection Class IP65



>SPECIFICATIONS

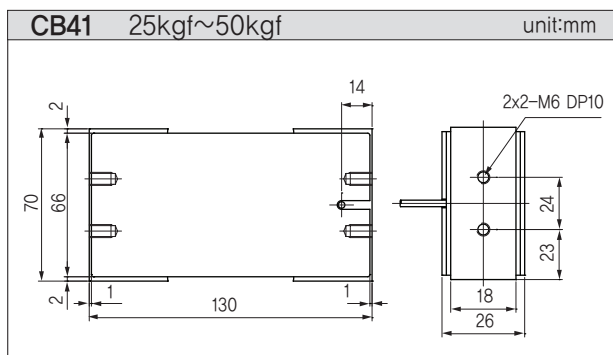
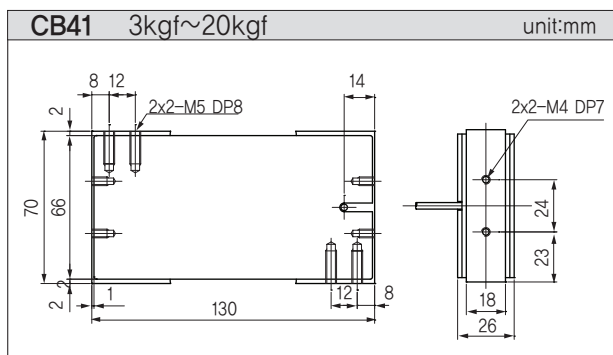
Specifications	Accuracy			
	CB2	CB4	CB5	CB6
Rated capacity(R.C)	60, 100, 250, 300kgf (588.4N, 980.7N, 2,452kN, 2,942kN)	300, 500kgf (2,942kN, 4,903kN)	30, 50, 100, 150, 300kgf (294.2N, 490.3N, 980.7N, 1,471kN, 2,942kN)	6, 10, 25, 30kgf (5.884N, 98.07N, 245.2N, 294.2N)
Rated output(R.O)	2mV/V±10%	2mV/V±10%	1.5mV/V±10%	2mV/V±10%
Nonlinearity	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.
Hysteresis	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.
Repeatability	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.	0.02% of R.O.
Creep(20min)	0.03% of R.O.	0.03% of R.O.	0.03% of R.O.	0.03% of R.O.
Zero balance	±5% of R.O.	±5% of R.O.	±5% of R.O.	±5% of R.O.
Terminal resistance input	420±20Ω	420±20Ω	420±20Ω	420±20Ω
Terminal resistance output	350±20Ω	350±20Ω	350±20Ω	350±20Ω
Insulation resistance bridge	2000MΩ	2000MΩ	2000MΩ	2000MΩ
Temperature effect on rated output	0.02% of LOAD/10°C	0.02% of LOAD/10°C	0.02% of LOAD/10°C	0.02% of LOAD/10°C
Temperature effect on zero balance	0.05% of R.O./10°C	0.05% of R.O./10°C	0.05% of R.O./10°C	0.05% of R.O./10°C
Temperature range, compensated	-10~50°C	-10~50°C	-10~50°C	-10~50°C
Temperature range, safe	-10~50°C	-10~50°C	-10~50°C	-10~50°C
Excitation recommended	10V	10V	10V	10V
Safe overload	150% R.C.	150% R.C.	150% R.C.	150% R.C.
Cable length	Ø7 4 Core, 3m	Ø7 4 Core, 3m	Ø7 4 Core, 3m	Ø5 4 Core, 3m
Allowable Maximum Platform Size	400 X 600mm	450 X 650mm	400 X 500mm	300 X 300mm
Weight(kg)	1.5	1.6	0.9	0.4
Wiring Information	EXC+ : RED, EXC- : White, SIG+ : Black, SIG- : Green			

★Specifications are subject to change without notice.

Bending Beam Load Cell

>Model CB41

Single point load cell
High accuracy and low price.

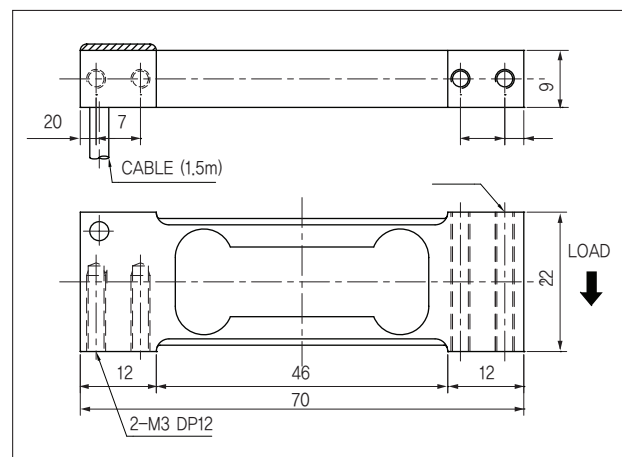
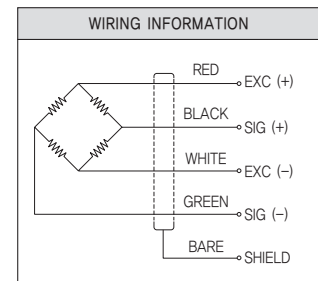
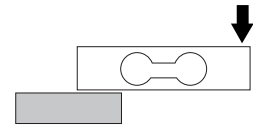


>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	3kgf, 10kgf, 20kgf, 25kgf, 50kgf
Rated output(R.O)	2mV/V $\pm$ 10%
Nonlinearity	0.02% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Creep(20min)	0.03% of R.O.
Zero balance	$\pm$ 5% of R.O.
Terminal resistance input	420 $\pm$ 20 Ω
Terminal resistance output	350 $\pm$ 20 Ω
Insulation resistance bridge	2000M Ω
Temperature effect on rated output	0.02% of LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	0.05% of R.O./10 $^{\circ}$ C
Temperature range, compen	-10 $\sim$ 50 $^{\circ}$ C
Temperature range, safe	-10 $\sim$ 50 $^{\circ}$ C
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	$\varnothing$ 3 4core cable, 4m

>Model CB122

Miniature single point load cell
high accuracy and low price
Small capacity



>SPECIFICATIONS

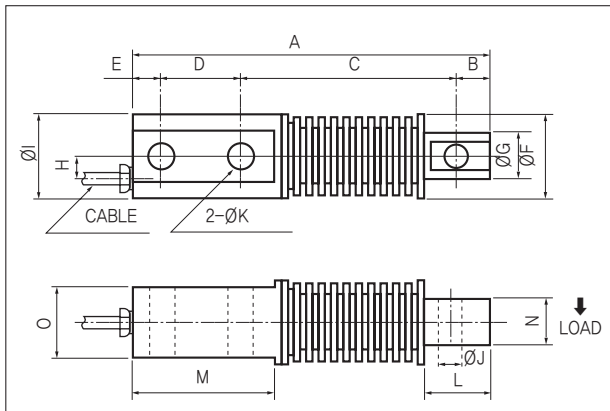
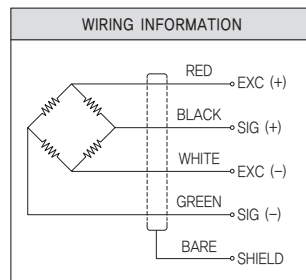
Specifications	Accuracy
Rated capacity(R.C)	200gf, 300gf
Rated output(R.O)	1.2mV/V $\pm$ 10%
Nonlinearity	0.02% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Zero balance	$\pm$ 5% of R.O.
Terminal resistance input	420 $\pm$ 20 Ω
Terminal resistance output	350 $\pm$ 20 Ω
Insulation resistance bridge	2000M Ω
Temperature effect on rated output	0.02% of LOAD/10 $^{\circ}$ C
Temperature effect on zero balance	0.03% of R.O./10 $^{\circ}$ C
Temperature range, compen	0 $\sim$ 40 $^{\circ}$ C
Temperature range, safe	-10 $\sim$ 50 $^{\circ}$ C
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	$\varnothing$ 3 4core cable, 1.5m

★Specifications are subject to change without notice.

Bending Beam Load Cell

>Model CBC

Stainless steel bellows seal.
Compact, lightweight and easy-to-mount
Protection Class IP67



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	10, 20, 50, 100, 200kgf, 500kg (98.07N, 196.1N, 490.3N, 980.7N, 4.903kN)
Rated output(R.O)	2mV/V $\pm$ 0.5%
Nonlinearity	0.03% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Zero balance	$\pm$ 1% of R.O.
Temperature effect, on rated output	0.02% of LOAD/10°C
Temperature effect, on zero balance	0.02% of R.O./10°C
Temperature range, compensated	-10~70°C
Temperature range, safe	-20~80°C
Terminal resistance input	350 $\pm$ 50 Ω
Terminal resistance output	350 $\pm$ 5 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	$\varnothing$ 5 4core cable, 3m

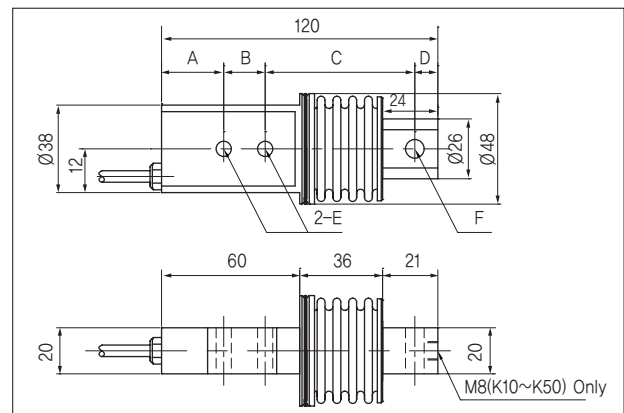
>DIMENSIONS TABLE(CBC)

Capacity	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Weight(kg)
10~100kg (98.1N~980.7N)	130	10	72	35	13	39	20	9	42	8.5	8.5	20	58	17	35	1.0
200~500kg (1.9kN~4.90kN)	200	20	120	45	15	50	29	14	52	12	14	40	80	25	40	1.8

★Specifications are subject to change without notice.

>Model CBC25

Stainless steel bellows seal.
Compact, lightweight and easy-to-mount



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	10, 20, 50, 100, 200kgf, 300kgf (98.07N ~ 2.940kN)
Rated output(R.O)	2mV/V $\pm$ 0.5%
Nonlinearity	0.05% of R.O.
Hysteresis	0.05% of R.O.
Repeatability	0.03% of R.O.
Zero balance	$\pm$ 1% of R.O.
Temperature effect, on rated output	0.02% of LOAD/10°C
Temperature effect, on zero balance	0.02% of R.O./10°C
Temperature range, compensated	-10~60°C
Temperature range, safe	-20~80°C
Terminal resistance input	350 $\pm$ 50 Ω
Terminal resistance output	350 $\pm$ 5 Ω
Insulation resistance bridge	5000M Ω
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	$\varnothing$ 5 4core cable, 3m

>DIMENSIONS TABLE(CBC25)

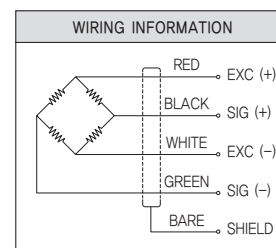
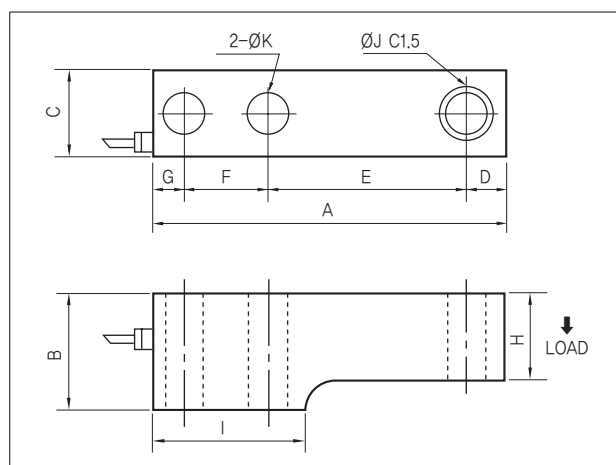
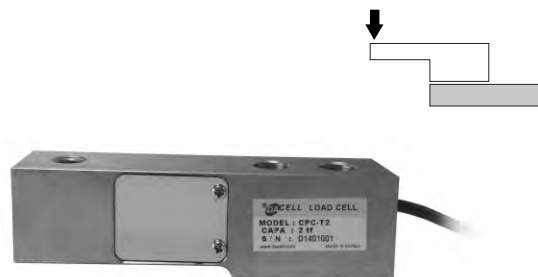
unit:mm

Capacity	A	B	C	D	E	F
10kgf, 20kgf, 50kgf	27	18	65	10	6.6	8.1
100kgf, 200kgf, 300kgf	25	20	65	10	8.4	10.1

Shear Beam Load Cells

>Model CP, CPC

A compact and low cost, shear type compression load cell. It is a comparatively low cost shear type transducers with a high accuracy of 0.02% R.O. Platform and Tank scale weighing.
Protection Class IP67 (500kg ~ 12.5t)

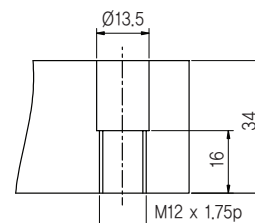


>SPECIFICATIONS

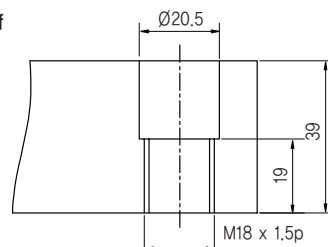
Specifications	Accuracy
Rated capacity(R.C)	50kgf, 100kgf, 150kgf, 300kgf, 500kgf, 1tf, 2tf, 3tf, 5tf, 6tf, 10tf, 12tf (490.3N, 980.7N, 1.471kN, 2.942kN, 4.903kN, 9.807kN, 19.61kN, 29.42kN, 49.03kN, 58.84kN, 98.07kN, 117.7kN)
Rated output(R.O)	2mV/V±0.1%
Nonlinearity	0.02% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Creep(20min)	0.03% of R.O.
Zero balance	±5% of R.O.
Temperature effect, on rated output	0.02% of LOAD/10°C
Temperature effect, on zero balance	0.05% of R.O./10°C
Temperature range, compensated	-10~50°C
Temperature range, safe	-20~80°C
Terminal resistance input	350±30Ω
Terminal resistance output	350±30Ω
Insulation resistance bridge	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	50kgf~6tf : Ø5±0.3mm 4core, 3m 10tf~12tf : Ø7±0.3mm 4core, 3m

Model CPC Thread

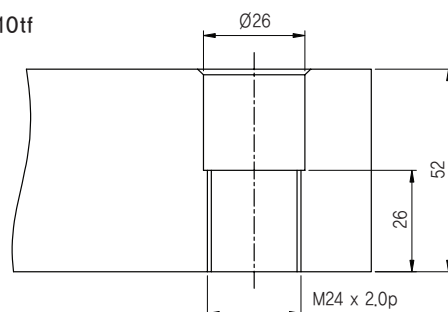
500kgf~2tf



3tf~5tf



10tf



>DIMENSIONS TABLE

unit:mm

Capacity	A	B	C	D	E	F	G	H	I	ØJ	ØK	Weight(kg)
50kgf~300kgf(490.3N~2,942kN)	135	36	26	17	75	25	18	32	58	11.5	11.5	0.5
500kgf~2tf(4.90kN~19.61kN)	135	38	30	17	75	25	18	34	58	13.5	13.5	1.1
3tf~5tf(29.42kN~49.03kN)	170	48	38	20	85	50	15	39	79	18.5	18.5	2.3
6tf(58.84kN)	203	48	50	23	95	62	23	39	110	24.5	24.5	3.5
10tf~12tf(98.07kN)	263	60	60	30	118	90	25	52	143	26	26	9

★Specifications are subject to change without notice.

Shear Beam Load Cell

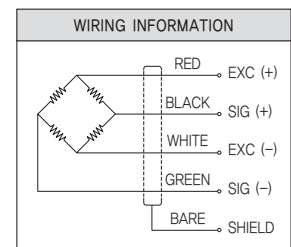
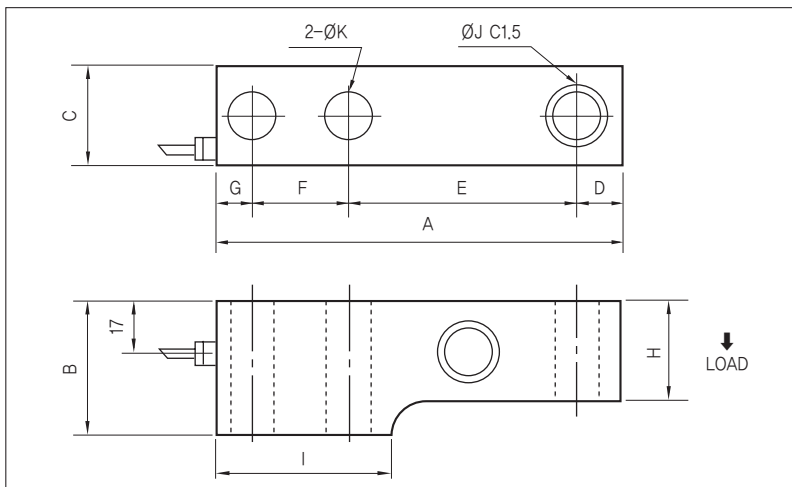
>Model CP57

Single ended shear beam load cell
high accuracy platform scales and a variety of process
weighing applications.
Nickel plated Alloy steel



>Model CPS

- Shear beam loadcell with a high accuracy of 0.03% R.O.
- Platform and Tank scale weighing.
- Protection Class IP67
- Fully welded seal with stainless steel cover for hostile environment applications.
- 17-4PH stainless steel construction for high accuracy.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	500kgf, 1tf, 2tf, 3tf, 5tf, 10tf
Rated output(R.O)	2mV/V $\pm$ 0.1%
Nonlinearity	0.02% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Creep(20min)	0.03% of R.O.
Zero balance	$\pm$ 5% of R.O.
Temperature effect, on rated output	0.02% of LOAD/10°C
Temperature effect, on zero balance	0.05% of R.O./10°C
Temperature range, compensated	-10~50°C
Temperature range, safe	-20~80°C
Terminal resistance input	350 $\pm$ 30 Ω
Terminal resistance output	350 $\pm$ 3 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	$\varnothing$ 5 $\pm$ 0.3mm 4core, 3m

>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	500kgf, 1tf, 2tf, 3tf, 5tf, 9tf, 10tf, 12tf
Rated output(R.O)	2mV/V $\pm$ 0.1%
Nonlinearity	0.03% of R.O.
Hysteresis	0.03% of R.O.
Repeatability	0.03% of R.O.
Creep(20min)	0.03% of R.O.
Zero balance	$\pm$ 5% of R.O.
Temperature effect, on rated output	0.02% of LOAD/10°C
Temperature effect, on zero balance	0.05% of R.O./10°C
Temperature range, compensated	-10~50°C
Temperature range, safe	-20~80°C
Terminal resistance input	350 $\pm$ 30 Ω
Terminal resistance output	350 $\pm$ 3 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	$\varnothing$ 5 $\pm$ 0.3mm 4core, 3m

>DIMENSIONS TABLE

unit:mm

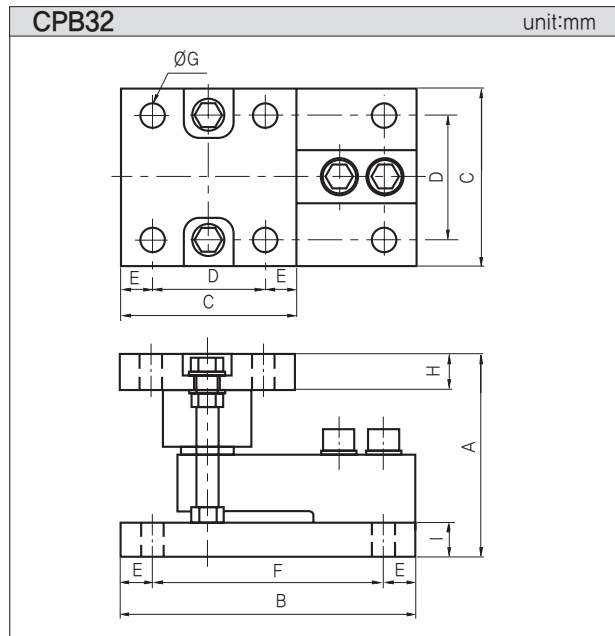
Model	Capacity	A	B	C	D	E	F	G	H	I	$\varnothing$ J	$\varnothing$ K	Weight(kg)
CPS	500kgf~2tf (4,903kN~19,61kN)	135	38	30	17	75	25	18	34	58	13.5	13.5	1.1
	3tf~5tf (29,42kN~49,03kN)	170	48	38	20	85	50	15	39	79	18	18.5	2.3
	9tf (88,26kN)	200	52	56	20	95	62	23	44	110	21	24.5	5
	10tf~12tf (98,07kN~117,1kN)	263	60	60	30	118	90	25	52	143	26	26	9
CP57	500kgf~2tf(4,90kN~19,61kN)	131	38	30	12.7	76.2	25.4	16.7	34	57	13.5	13.5	1.1
	3tf~5tf(29,42kN~49,03kN)	171	44.5	38	19	95	38	19	38	76.2	20.5	20	2.3
	10tf(98,07kN)	222.3	57.2	50.8	25.4	120.7	50.8	25.4	50.8	108	26.2	26.2	9

★Specifications are subject to change without notice.

Weighing Module

>Model CPB32, CPB42, CPB52

Hopper, Bin, Tank weigh module Stainless Steel or Zinc Plated Steel Mounting Kit.



ORDERING INFORMATION

CPB32 - 2T
Model CAPACITY(300K, 500K, 1T, 2T, 3T, 5T)

CPB32 : CP loadcell + Zinc Plateel Steel Mtg Kit

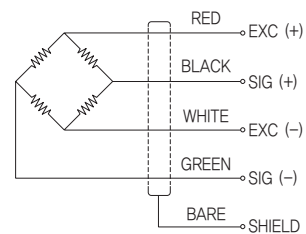
CPB42 : CPS loadcells + Zinc Plateel Steel Mtg Kit

CPB52 : CPS loadcells + Stainless Steel Mtg Kit

>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	300kg, 500kg, 1t, 2t, 3t, 5t
Rated output(R.O)	2mV/V $\pm$ 0.1%
Nonlinearity	0.02% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.01% of R.O.
Creep	0.02% of R.O.
Zero balance	$\pm$ 1% of R.O.
Excitation recommended	10V
Terminal resistance input, output	350 Ω $\pm$ 1%
Insulation resistance bridge	2000M Ω
Temperature range, compensated	-10 $\sim$ 70 $^{\circ}$ C
Temperature range, safe	-20 $\sim$ 80 $^{\circ}$ C
Temperature effect, on rated output	0.02% of LOAD/10 $^{\circ}$ C
Temperature effect, on zero balance	0.05% of R.O./10 $^{\circ}$ C
Safe overload	150% R.C.
Cable length	$\varnothing$ 5, 4core, 3m

WIRING INFORMATION



>DIMENSIONS TABLE

unit:mm

Capacity	A	B	C	D	E	F	G	H	I	Weight(kg)
300kg (2.942kN)	108	168	106	70	18	132	11.5	15	20	8
500kg $\sim$ 2t (4.903kN $\sim$ 19.61kN)	116	168	106	70	18	132	13.5	21	20	9
3t $\sim$ 5t (29.42kN $\sim$ 49.03kN)	145	225	150	110	20	185	18	25	30	16

★Specifications are subject to change without notice.

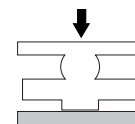
Truck Scale Load Cell

>Model CT

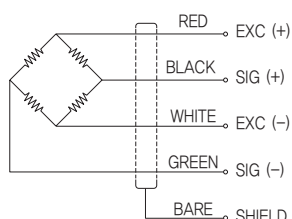
Capacity: 20tf, 25tf, 30tf.

The Model CT, Double-Ended Shear Beam Load Cell is ideally suited for use in Truck Scales for heavy-duty, high-capacity weighing.

Protection Class IP67



WIRING INFORMATION



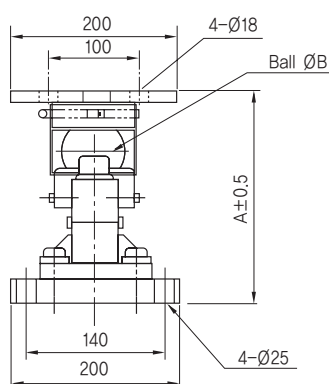
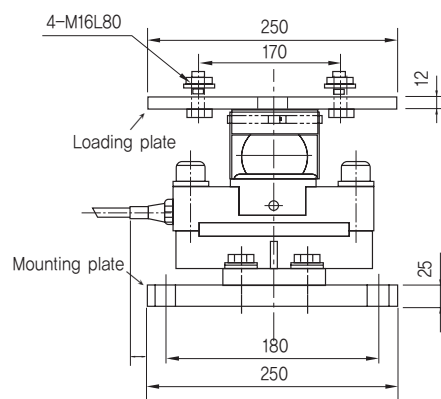
ORDERING INFORMATION

CT-T25-FS : Full sets - 34kg

CT-T25-BC : Loadcell, Ball, Cup and Cap - 16kg

CT-T25-LC : Only loadcell - 14kg

↑ T20, T25, T30



CAP.	A	B
25tf	255	3"
30tf	255	3"

>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	25tf, 30tf (245.2kN, 294kN)
Rated output(R.O)	2mV/V±0.2%
Nonlinearity	0.03% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Creep(30min)	0.025% of R.O.
Zero balance	±2% of R.O.
Temperature effect, on rated output	0.02% of LOAD/10°C
Temperature effect, on zero balance	0.03% of R.O./10°C
Temperature range, compensated	-10~+70°C
Temperature range, safe	-20~+80°C
Terminal resistance input	800±30Ω
Terminal resistance output	700±2Ω
Insulation resistance bridge/case	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø7±0.3mm 4core, 10m

★Specifications are subject to change without notice.

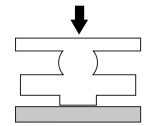
Truck Scale Load Cell

>Model CTM

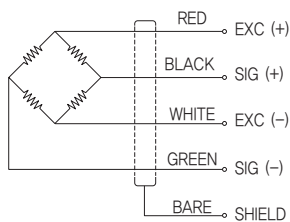
Capacity: 5tf, 10tf

The Model CTM Double-Ended Shear Beam Load Cell is ideally suited for use in Truck Scales for heavy-duty, high-capacity weighing.

Protection Class IP67

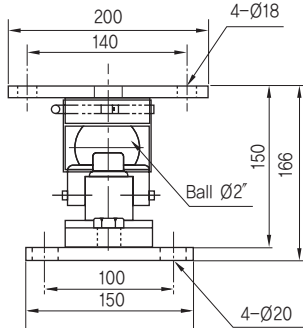
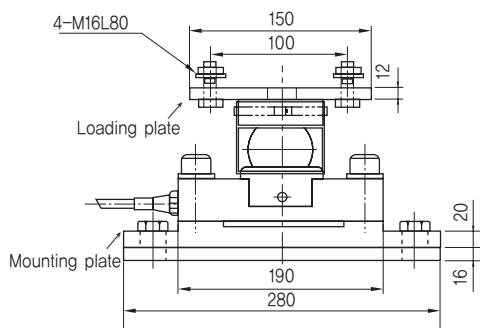


WIRING INFORMATION



ORDERING INFORMATION

CTM-T10-FS : Full sets - 18kg
CTM-T10-BC : Loadcell, Ball, Cup and Cap - 9kg
CTM-T10-LC : Only Loadcell - 7kg



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	10tf (98.07kN)
Rated output(R.O)	2mV/V $\pm$ 0.2%
Nonlinearity	0.03% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Creep(30min)	0.025% of R.O.
Zero balance	$\pm$ 2% of R.O.
Temperature effect, on rated output	0.02% of LOAD/10 $^{\circ}$ C
Temperature effect, on zero balance	0.03% of R.O./10 $^{\circ}$ C
Temperature range, compensated	-10 $\sim$ +70 $^{\circ}$ C
Temperature range, safe	-20 $\sim$ +80 $^{\circ}$ C
Terminal resistance input	800 $\pm$ 30 Ω
Terminal resistance output	700 $\pm$ 20 Ω
Insulation resistance bridge/case	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	$\varnothing$ 7 $\pm$ 0.3mm 4core, 10m

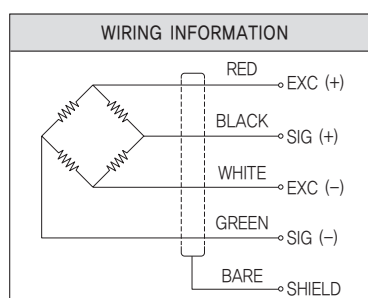
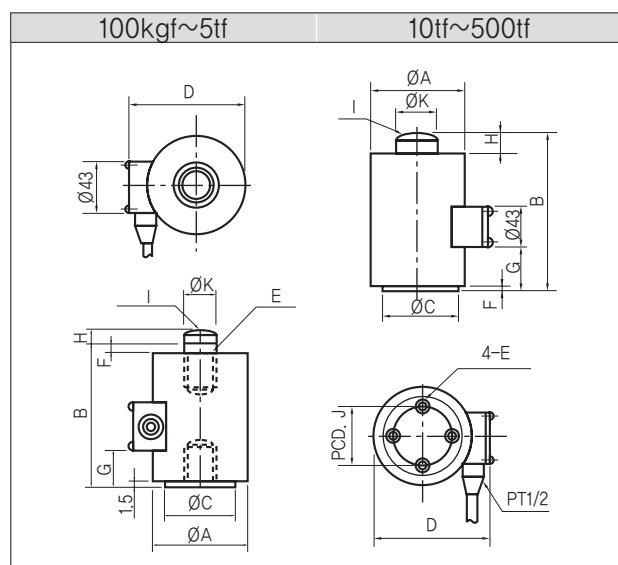
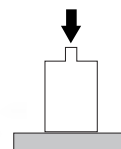
★Specifications are subject to change without notice.

Compression Load Cells

>Model CX, CX77

CX : Painted finished steel.
CX77, CXH : Nikel planted steel

High Precision Accuracy Compression Service.
Hopper, Tank Weighing.
Protection Class IP67 (CXG, CXM)



>SPECIFICATIONS

Specifications	Accuracy		
	CXH	CXM	CXG, CX77
Rated capacity(R.C)	1tf, 2tf, 3tf, 5tf, 10tf, 20tf	100kgf, 200kgf, 500kgf, 1tf, 2tf, 3tf, 5tf, 10tf, 20tf, 30tf, 50tf, 100tf, 200tf, 300tf, 500tf	
Rated output(R.O)	2.0mV/V $\pm$ 0.1%	2.0mV/V $\pm$ 0.1(50tf~500tf : 1.5mV/V $\pm$ 0.1%)	
Nonlinearity	0.02% of R.O.	0.05% of R.O.	0.1% of R.O. (200, 300, 500tf : 0.5% of R.O.)
Hysteresis	0.02% of R.O.	0.05% of R.O.	0.1% of R.O. (200, 300, 500tf : 0.5% of R.O.)
Repeatability	0.02% of R.O.	0.05% of R.O.	0.1% of R.O.
Zero balance	$\pm$ 1% of R.O.	$\pm$ 1% of R.O.	$\pm$ 1% of R.O.
Temperature effect, on rated output	0.03% of LOAD/10°C	0.03% of LOAD/10°C	0.1% of LOAD/10°C
Temperature effect, on zero balance	0.03% of R.O./10°C	0.03% of R.O./10°C	0.1% of R.O./10°C
Temperature range, compensated	-10~60°C	-10~60°C	-10~60°C
Temperature range, safe	-20~80°C	-20~80°C	-20~80°C
Terminal resistance input	350 $\pm$ 5 Ω	350 $\pm$ 5 Ω	350 $\pm$ 5 Ω
Terminal resistance output	350 $\pm$ 5 Ω	350 $\pm$ 5 Ω	350 $\pm$ 5 Ω
Insulation resistance bridge/case	5000M Ω	5000M Ω	5000M Ω
Excitation recommended	10V	10V	10V
Safe overload	150% R.C.	150% R.C.	150% R.C.
Cable length	$\varnothing$ 7mm 4core, 3m	$\varnothing$ 7mm 4core, 3m	$\varnothing$ 7mm 4core, 3m

>DIMENSIONS TABLE

unit:mm

Model	Capacity	$\varnothing$ A	B	$\varnothing$ C	D	E	F	G	H	RI	J	$\varnothing$ K	Weight
CX	100kgf~1tf (490.3N~9.807kN)	88	107	50	118	M12 $\times$ 1.25 DP15	4	25	9	25	-	24	3kg
	2tf (19.61kN)	88	150	66	118	M24 $\times$ 2 DP30	5	42	20	60	-	42	4.5kg
	3tf (29.42kN)	88	150	66	118	M24 $\times$ 2 DP30	5	42	20	60	-	42	4.5kg
	5tf (49.03kN)	88	150	66	118	M24 $\times$ 2 DP30	5	42	20	60	-	42	4.5kg
	10tf (98.07kN)	93	127	80	129	M12 $\times$ 1.75 DP20	2	42	15	140	60	38	5kg
	20tf (196.1kN)	93	147	80	129	M12 $\times$ 1.75 DP20	2	50	15	140	60	38	5.5kg
	30tf (294.2kN)	93	147	80	129	M12 $\times$ 1.75 DP20	2	50	15	140	60	38	5.5kg
	50tf (490.3kN)	137	165	110	170	M12 $\times$ 1.75 DP20	2	75	20	180	80	50	10kg
	100tf (980.7kN)	166	210	140	198	M16 $\times$ 2 DP20	2	100	20	200	100	70	28kg
	200tf (1.961MN)	216	250	180	246	M16 $\times$ 2 DP25	2	120	30	300	130	95	45kg
	300tf (2.942MN)	216	320	180	246	M24 $\times$ 3 DP35	2	160	30	600	130	120	50kg
	500tf (4.903MN)	256	400	238	283	M30 $\times$ 3.5 DP50	7	200	20	800	200	170	65kg
	1000tf (9.807MN)	295	385	270	247	M24 $\times$ 3 DP35	5	170	25	800	200	220	70kg
CX77	200tf (1.961MN)	164	220	140	194	M20 $\times$ 2.5 DP30	5	80	20	600	100	95	29kg
	300tf (2.942MN)	164	250	140	194	M24 $\times$ 3 DP35	5	94	20	600	100	95	30kg
	500tf (4.903MN)	217	270	170	247	M24 $\times$ 3 DP35	7	125	25	600	130	120	55kg

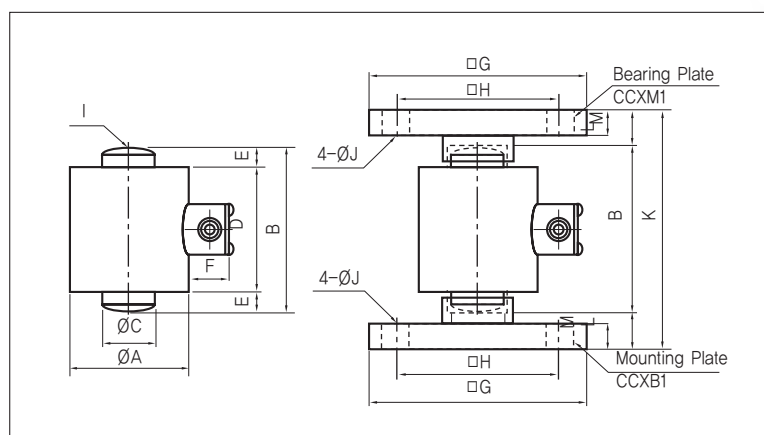
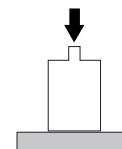
★Specifications are subject to change without notice.

Compression Load Cell

>Model CCX

The model CCX Loadcell is heavy duty weighing applications, including hoppers, tanks, silos and high capacity scales. Protection Class IP67

- Insensitive to side load
- Double convex type
- Robust high capacity design



ORDERING INFORMATION

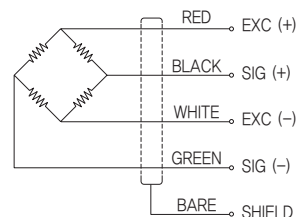
CCX - T10 - FS : Full sets (CCXM1 and CCXB1)
CAPACITY

CCX - T10 - LC : Only Loadcell
CAPACITY

>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	5tf, 10tf, 20tf, 30tf, 50tf, 100tf, 200tf, 300tf, 500tf
Rated output(R.O)	1.5 mV/V $\pm$ 0.5%
Nonlinearity	0.1% of R.O.
Hysteresis	0.1% of R.O.
Repeatability	0.05% of R.O.
Creep(30min)	0.05% of R.O. / 20min
Zero balance	1% R.O.
Temperature effect, on rated output	0.03% of LOAD/10°C
Temperature effect, on zero balance	0.03% of R.O./10°C
Temperature range, compensated	-10~60°C
Temperature range, safe	-20~80°C
Terminal resistance input	350 $\pm$ 5 Ω
Terminal resistance output	350 $\pm$ 5 Ω
Insulation resistance	2000M Ω
Excitation recommended	10V DC
Safe overload	150% R.C.
Cable length	$\varnothing$ 7 $\pm$, 4coreshield, 5m

WIRING INFORMATION



>DIMENSIONS TABLE

unit:mm

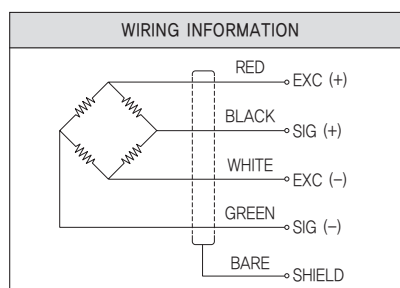
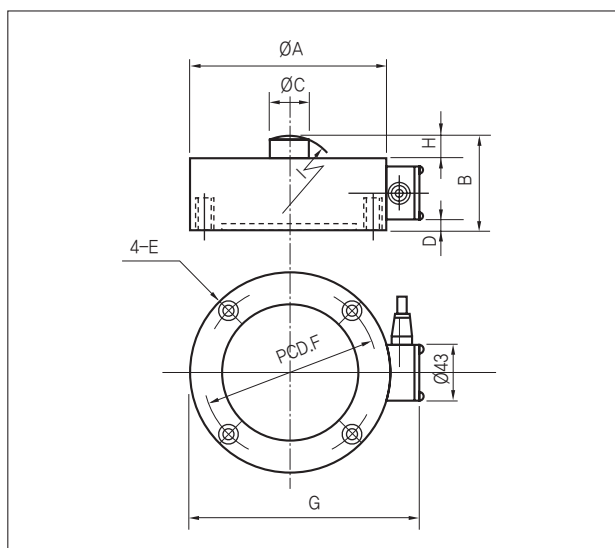
Capacity	A	B	C	D	E	F	G	H	J	K	L	M	RI	Weight(kg)
5tf (49.03kN)	45	56	16.5	40	8	30	100	80	10.5	116	30	19	60	3
10tf (98.07kN)	88	120	24	90	15	30	140	100	18	180	30	19	140	7.8
20t (196.1kN)	88	120	38	90	15	30	140	100	18	190	35	22	140	9.6
30tf (294.2kN)	93	140	38	110	15	30	200	150	23	220	40	25	140	20.2
50tf (490.7kN)	137	180	50	140	20	30	200	150	23	280	50	25	180	24.5
100tf (980.7kN)	166	240	70	200	20	30	220	160	27	356	58	32	200	42.7
200tf (1.961MN)	216	260	95	210	25	30	280	220	39	396	68	40	300	86.4
300tf (2.942MN)	216	340	120	290	25	30	300	220	45	492	76	50	600	150.0
500tf (4.903MN)	265	390	155	330	30	30	380	280	50	568	89	65	800	253.1

★Specifications are subject to change without notice.

Low Profile Compression Load Cell

>Model CL

Low Profile Compression Service Load Cell.
Hopper, Tank Weighing
CL : Painted finished steel, Protection Class IP67.
CLH : Nikel planted steel



>SPECIFICATIONS

Specifications	Accuracy	
	CL	CLH
Rated capacity(R.C.)	500kgf, 1tf, 2tf, 5tf, 10tf, 20tf, 50tf, 100tf, 200tf, 300tf, 500tf	500kgf, 1tf, 2tf, 5tf, 10tf, 20tf, 50tf
Rated output(R.O.)	2mV/V±0.1%	2mV/V±0.1%
Nonlinearity	0.05% of R.O.(100tf, 200tf : 0.1%)	0.02% of R.O.
Hysteresis	0.05% of R.O.(100tf, 200tf : 0.1%)	0.02% of R.O.
Repeatability	0.03% of R.O.(100tf, 200tf : 0.05%)	0.02% of R.O.
Zero balance	±2% of R.O.	±2% of R.O.
Temperature effect, on rated output	0.05% of LOAD/10°C	0.03% of LOAD/10°C
Temperature effect, on zero balance	0.05% of R.O./10°C	0.03% of R.O./10°C
Temperature range, compensated	-10~60°C	-10~60°C
Temperature range, safe	-20~80°C	-20~80°C
Terminal resistance input	700±30Ω	700±30Ω
Terminal resistance output	700±3Ω	700±3Ω
Insulation resistance bridge/case	2000MΩ	2000MΩ
Excitation recommended	10V	10V
Safe overload	150% R.C.	150% R.C.
Cable length	Ø7mm 4core, 3m	Ø7mm 4core, 3m

>DIMENSIONS TABLE

unit:mm

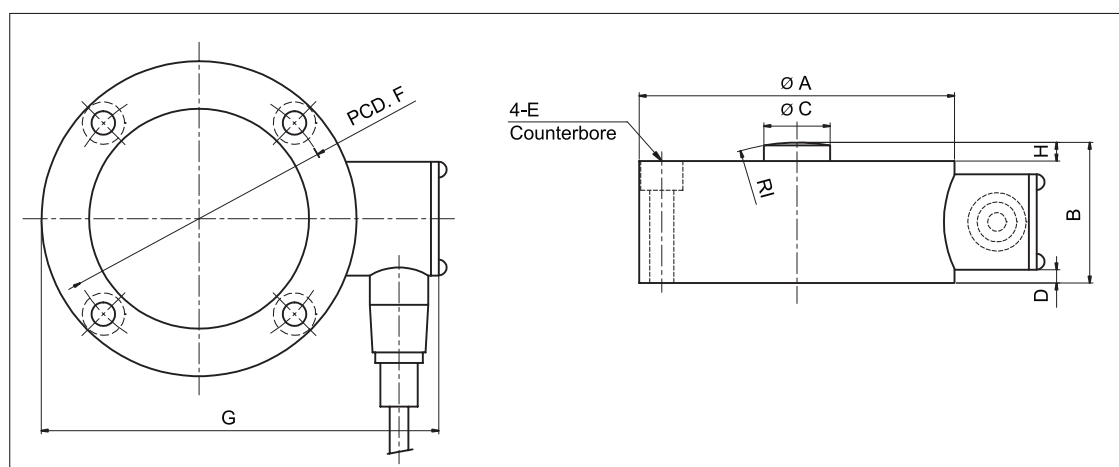
Capacity	ØA	B	ØC	D	E	ØF	G	H	RI	Weight(kg)
500kgf (4.903kN)	88	30	16	1.5	M6×1 DP10	70	119	5	60	1.8
1tf (9.807kN)	98	46	22	1.5	M8×1.25 DP12	80	129	7	60	2.6
2tf (19.61kN)	98	46	22	1.5	M8×1.25 DP12	80	129	7	60	
5tf (49.03kN)	98	46	22	1.5	M8×1.25 DP12	80	129	7	60	
10tf (98.07kN)	118	65	24	11	M8×1.25 DP12	98	149	7	80	3.8
20tf (196.1kN)	157	65	34	11	M8×1.25 DP12	120	188	10	100	8
30tf (294.2kN)	187	75	50	16	M12×1.75 DP20	150	218	10	140	14
50tf (490.3kN)	187	75	50	16	M12×1.75 DP20	150	218	10	140	14
100tf (980.7kN)	278	120	74	37	M12×1.75 DP20	240	309	15	160	45
200tf (1.961MN)	320	170	100	63.5	M16×2 DP20	270	351	15	250	85
300tf (2.942MN)	396	195	140	68.5	M16×2 DP20	330	427	15	320	180
500tf (4.903MN)	430	200	150	68.5	M20×2.5 DP25	360	485	20	320	220

★Specifications are subject to change without notice.

Low Profile Compression Load Cell

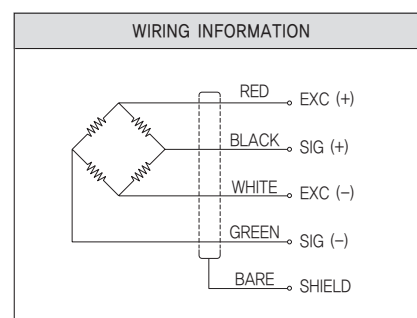
>Model CL63

Low Profile Compression Service Load Cell.
Hopper, Tank Weighing
CL : Protection Class IP67



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	500kgf, 1tf, 2tf, 5tf, 10tf, 15tf, 20tf, 30tf, 50tf, 100tf
Rated output(R.O)	2.0 mV/V $\pm$ 0.1%
Nonlinearity	0.05% of R.O.
Hysteresis	0.05% of R.O.
Repeatability	0.03% of R.O.
Zero balance	$\pm$ 2% R.O.
Temperature effect on rated output	0.05% of LOAD/10°C
Temperature effect on zero balance	0.03% of R.O./10°C
Temperature range, compensated	-10~60°C
Temperature range, safe	-20~80°C
Terminal resistance input	700 $\pm$ 30 Ω
Terminal resistance output	700 $\pm$ 3 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø7mm 4core, 3m



>DIMENSIONS TABLE

unit:mm

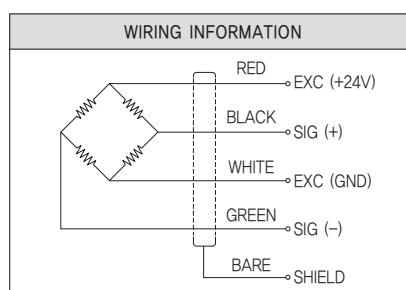
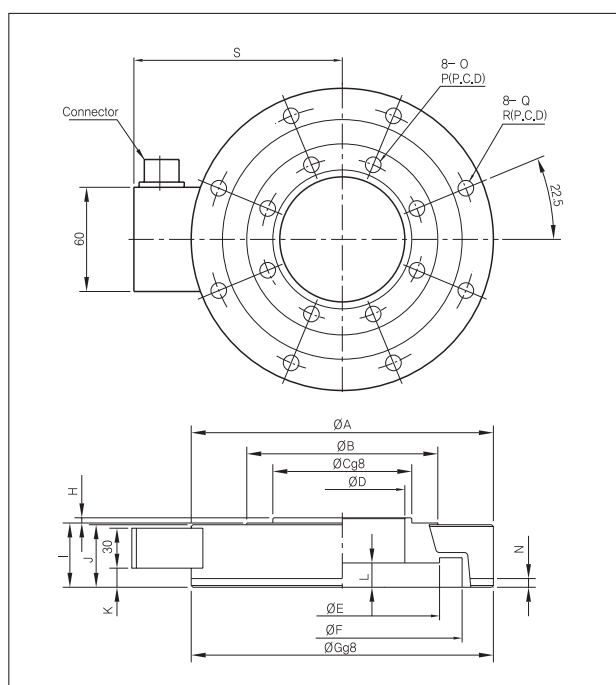
Model	ØA	B	ØC	D	E	PCD. F	G	H	R1
500kgf	88	28	16	1.5	M6	73	119	5	60
1tf	88	28	16	1.5	M6	73	119	5	60
2tf	104	44	22	1.5	M8	86	135	7	60
5tf	104	44	22	1.5	M8	86	135	7	60
10tf	119	53	25	1.5	M8	102	150	7	80
15tf	144	65	45	7	M10	118	175	7	100
20tf	144	65	45	7	M10	118	175	7	100
30tf	189	67	55	7	M12	158	220	10	140
50tf	189	67	55	7	M12	158	220	10	140
100tf	226	100	70	23.5	M16	190	257	10	160

*Specifications are subject to change without notice.

Compression Load Cell

>Model UL12

Canister, through-hole type.
Suitable for application in injection molding machines.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity	6tf~50tf (58.84kN~490.3kN)
Safe overload	150% R.C.
Nonlinearity	0.6% R.O.
Hysteresis	0.6% R.O.
Repeatability	0.2% R.O.
Current output	4mA to 20mA (3 wires method, Load resistance 500 or less, at 24)
Power supply voltage	DC 24V
Temperature range, compensated	0°C to 60°C
Temperature range, safe	-10°C to 70°C
Temperature effect on zero balance	0.15% R.O./10°C
Temperature effect on output	0.15% LOAD/10°C
Cable	4 cores shielded 5m
Class of protection	Equivalent to IP64. (main body only)
Materials of the element	Alloy steel
Durability	10 ⁶ times with rated capacity.

>DIMENSIONS TABLE

unit:mm

Model	Capacity	A	B	C	D	E	F	G	H	I	J	K	L	N	O	P	Q	R	S	Weight (Approx. kg)
UL12-T6	58.84kN	174	110	80	72	112	138	181	3	37	37	6	14	5	9	93	9	154	120	8
UL12-T8	78.45kN																			
UL12-T12	118kN	180	110	80	70	112	138	181	5	60	59.5	26	17	10	9	93	9	160	123	10
UL12-T15	147.1kN																			
UL12-T20	196.1kN																			
UL12-T27	265kN	275	180	135	110	182	208	276	5	60	60	26	17	10	13	160	13	247	171	19
UL12-T34	333.4kN																			
UL12-T50	490.3kN																			

★Specifications are subject to change without notice.

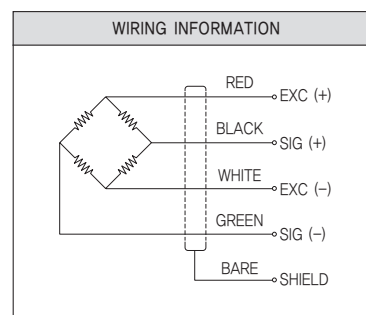
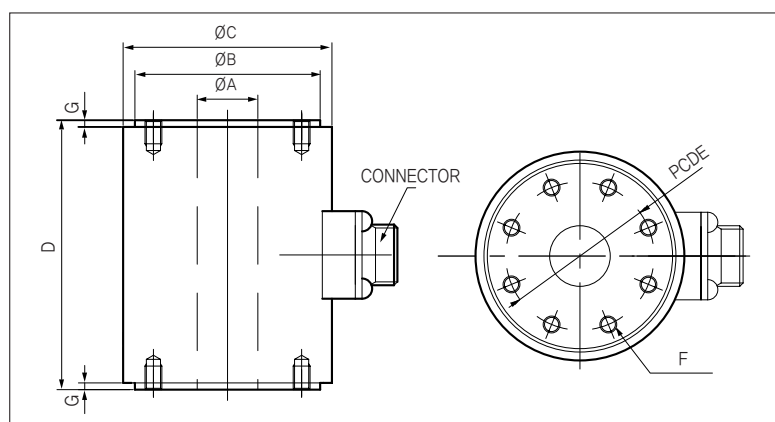
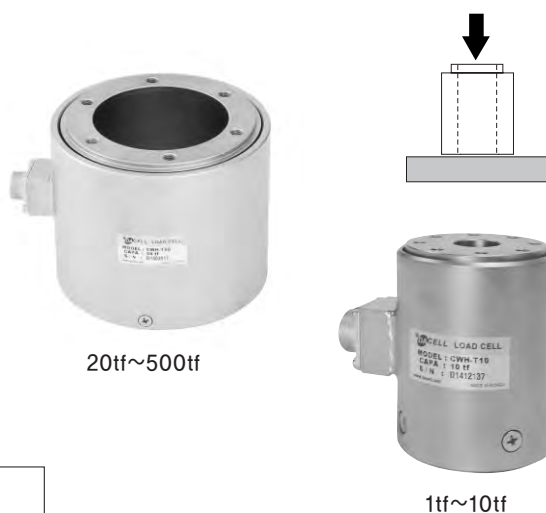
Hollow Type Load Cell

>Model CWH

Easy installation with hole in center.

Designed for use in civil engineering measurement, these loads on tunnel supports and soil pressure on protective Walls to aid control in construction projects.

Protection Class IP64



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	500kgf, 1tf, 2tf, 3tf, 5tf, 10tf, 20tf, 50tf, 100tf, 200tf, 300tf
Rated output(R.O.)	1mV/V±0.4%
Nonlinearity	1% of R.O.
Hysteresis	1% of R.O.
Repeatability	0.2% of R.O.
Zero balance	±2% of R.O.
Temperature effect, on rated output	0.05% of LOAD/10°C
Temperature effect, on zero balance	0.1% of R.O./10°C
Temperature range, compensated	-10~60°C
Temperature range, safe	-20~80°C
Terminal resistance input	700±50Ω (500kg : 350Ω)
Terminal resistance output	700±2Ω (500kg : 350Ω)
Insulation resistance bridge/case	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø7mm 4core, 3m

>DIMENSIONS TABLE

unit:mm

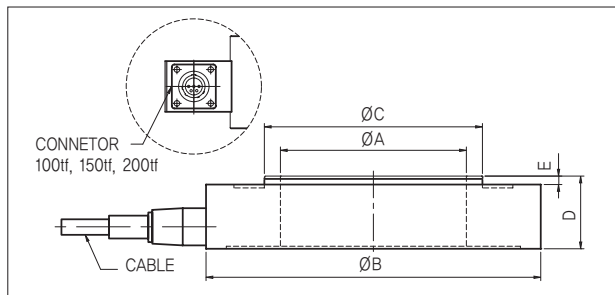
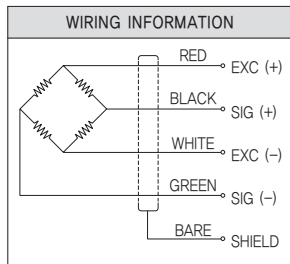
Capacity	ØA	ØB	ØC	D	E	F	G	Weight(kg)
500kgf (4.903KN)	10	24	40	50	18	2×4-M4 DP10	1	0.5
1tf (9.807KN)	18	55	62	70	44	2×8-M5 DP10	2	1
2tf (19.61KN)	18	55	62	70	44	2×8-M5 DP10	2	1
3tf (29.42KN)	18	55	62	70	44	2×8-M5 DP10	2	1
5tf (49.03KN)	18	55	62	70	44	2×8-M5 DP10	2	1
10tf (98.07KN)	18	55	62	80	44	2×8-M5 DP10	2	1.3
20tf (196.1KN)	43	68	96	80	56	2×8-M6 DP10	3	3
50tf (490.3KN)	80	112	130	110	96	2×6-M8 DP10	3	11
100tf (980.7KN)	85	118	158	110	102	2×6-M12 DP10	3	13
200tf (1.961MN)	120	162	240	120	140	2×6-M12 DP12	3	25
300tf (2.942MN)	120	179	240	120	150	2×6-M12 DP15	3	26
500tf (4.903MN)	150	227	265	200	190	2×12-M16 DP15	8	30

★Specifications are subject to change without notice.

Slim Hollow Type Load Cell

>Model CWW

These load cells are extremely Slim and lightweight. Easy installation with hole in center. Designed for use in civil engineering measurement, these loads on tunnel supports and soil pressure on protective Walls to aid control in construction projects. Protection Class IP66



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	50kgf, 100kgf, 200kgf, 500kgf, 1tf, 2tf, 3tf, 5tf, 10tf, 20tf, 30tf, 50tf, 100tf, 150tf, 200tf (490.3N, 980.7N, 1.961kN, 4.903kN, 9.807kN, 19.61kN, 29.42kN, 49.03kN, 98.07kN, 196.1kN, 490.3kN, 980.7kN, 1.961MN)
Rated output(R.O.)	1.5mV/V±0.4%
Nonlinearity	1% of R.O.
Repeatability	0.5% of R.O.
Zero balance	0.5% of R.O.
Terminal resistance input	700±10Ω
Terminal resistance output	700±5Ω
Insulation resistance bridge	2000MΩ
Temperature range, compensated	-10~60°C
Temperature range, Safe	-20~80°C
Temperature effect, on zero balance	0.1% R.O./10°C
Temperature effect, on rated output	0.05% LOAD/10°C
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	50kgf~5tf Ø5mm 4core, 3m 10~200tf Ø7mm 4core, 3m

>DIMENSIONS TABLE

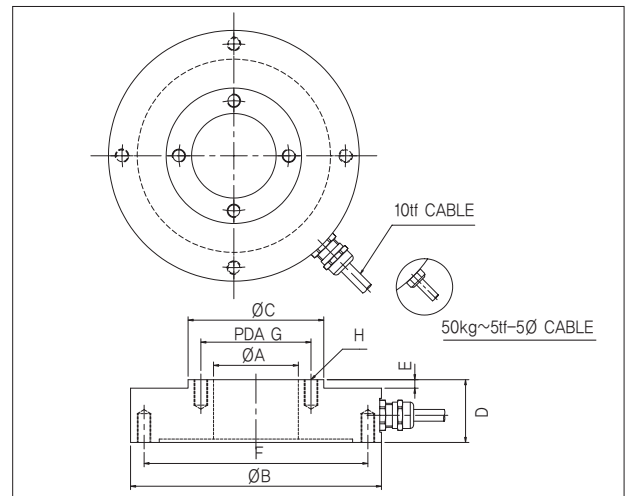
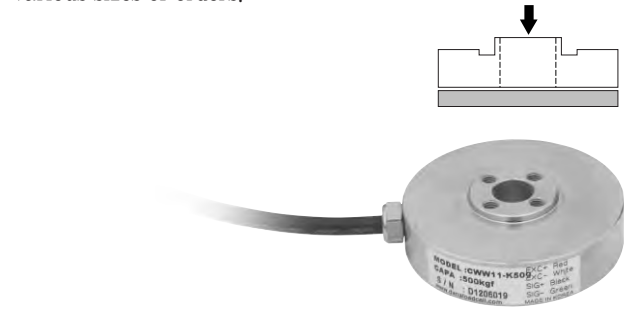
unit:mm

Capacity	ØA	ØB	ØC	D	E	Weight(kg)
50kgf	10	55	22	15	2	2
100kgf	10	55	22	15	2	
200kgf	10	55	22	15	2	
500kgf	10	55	22	15	2	
1tf	12	68	28	20	1.5	2.5
2tf	12	68	28	20	1.5	
3tf	12	68	28	20	1.5	
5tf	12	68	28	20	1.5	
10tf	50	148	80	37	5	3
20tf	70	155	99	43	5	6
30tf	70	155	99	43	5	6
50tf	70	155	99	43	5	6
100tf	110	198	129	43	5	8
150tf	165	278	200	50	8	20
200tf	170	308	212	65	10	27

★ Specifications are subject to change without notice.

>Model CWW11

Center hole type compressor makes it easy to install slim format. Suitable for measuring bolt tension and creates various sizes of orders.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	50kgf ~ 500kgf (490.3N ~ 4.903kN) 1tf ~ 10tf (98.07kN ~ 98.07kN)
Rated output(R.O.)	1.5mV/V ±0.4%
Nonlinearity	1% of R.O.
Repeatability	0.5% of R.O.
Zero balance	0.5% of R.O.
Terminal resistance input	700±10Ω
Terminal resistance output	700±5Ω
Insulation resistance bridge	2000MΩ
Temperature range, compensated	-10~60°C
Temperature range, Safe	-20~80°C
Temperature effect, on zero balance	0.1% R.O./10°C
Temperature effect, on rated output	0.05% LOAD/10°C
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	50kgf~5tf - Ø5mm 4core, 3m 10tf - Ø7mm 4core, 3m

>DIMENSIONS TABLE

unit:mm

Capacity	ØA	ØB	ØC	D	E	F	G	H
50kgf (490.3N)	10	55	22	15	2	48	16	2x4-M4 DP6
100kgf (980.7N)	10	55	22	15	2	48	16	2x4-M4 DP6
200kgf (1.961kN)	10	55	22	15	2	48	16	2x4-M4 DP6
500kgf (4.903kN)	10	55	22	15	2	48	16	2x4-M4 DP6
1tf (9.807kN)	12	68	28	20	1.5	60	20	2x4-M6 DP10
2tf (19.61kN)	12	68	28	20	1.5	60	20	2x4-M6 DP10
3tf (29.42kN)	12	68	28	20	1.5	60	20	2x4-M6 DP10
5tf (49.03kN)	12	68	28	20	1.5	60	20	2x4-M6 DP10
10tf (98.07kN)	50	148	80	37	5	132	65	2x6-M8B DP15

Compression Load Cell

>Model CM96

Compression Load Cell,

Low profile & Robust design

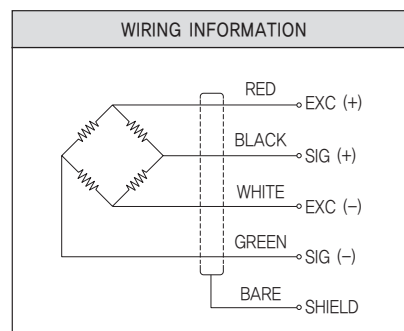
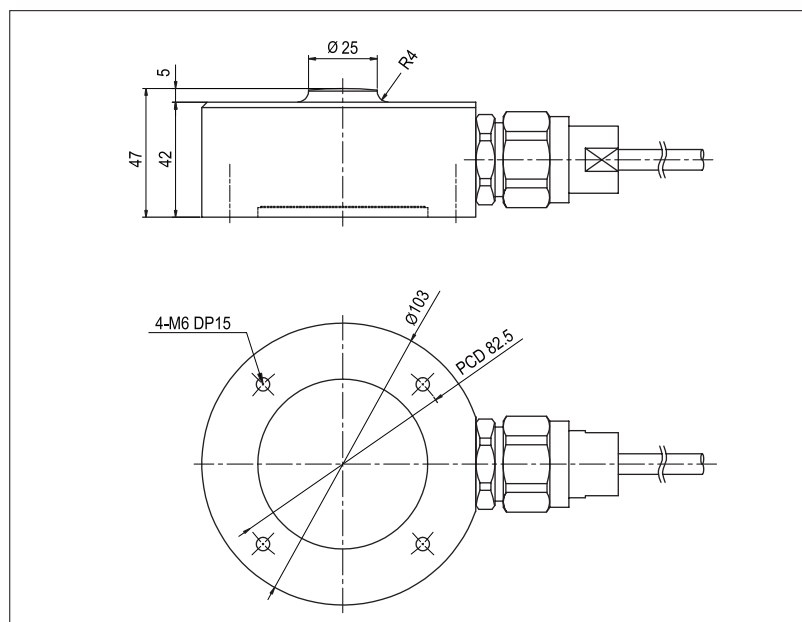
KOSHA of the certified explosion-proof type load cell.

Classification code : Ex d IIB T4.



>DIMENSIONS

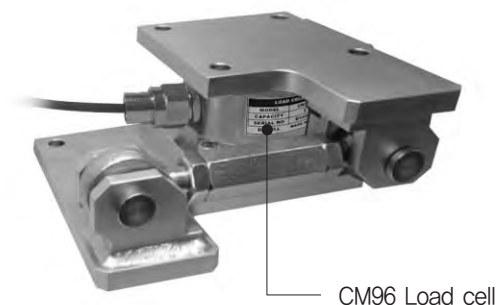
unit:mm



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	2tf, 3tf, 5tf, 10tf, 15tf, 20tf
Rated output(R.O.)	2mV/V $\pm$ 0.25%
Nonlinearity	0.05% of R.O.
Hysteresis	0.05% of R.O.
Repeatability	0.02% of R.O.
Zero balance	$\pm$ 2% of R.O.
Temperature effect, on rated output	0.03% of LOAD/10°C
Temperature effect, on zero balance	0.03% of R.O./10°C
Temperature range, compensated	-10~+50°C
Temperature range, safe	-10~+80°C
Terminal resistance input	700 $\pm$ 20 Ω
Terminal resistance output	700 $\pm$ 10 Ω
Insulation resistance bridge/case	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø5mm 4core, 3m

>Mounting Kit (CMI-96)



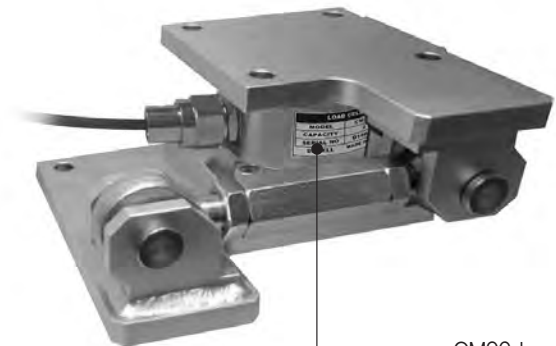
CM96 Load cell

★Specifications are subject to change without notice.

Weighing Module

>Weighing Modue CMI-96

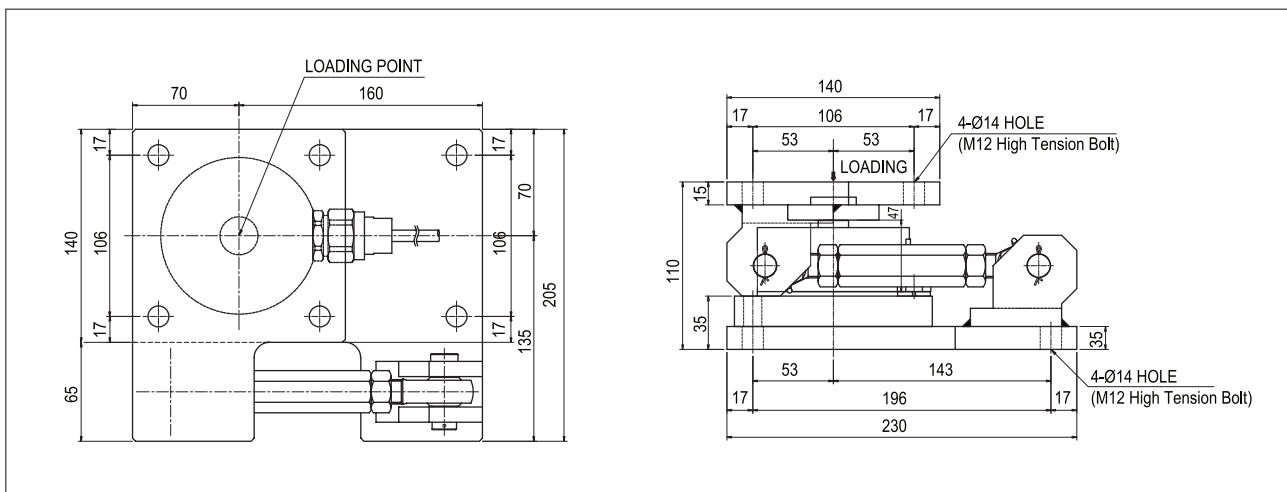
Compact design.
Material Zinc plated steel.
Integrated horizontal stops.
Using loadcell : CM96
Classification code : Ex d IIB T4.



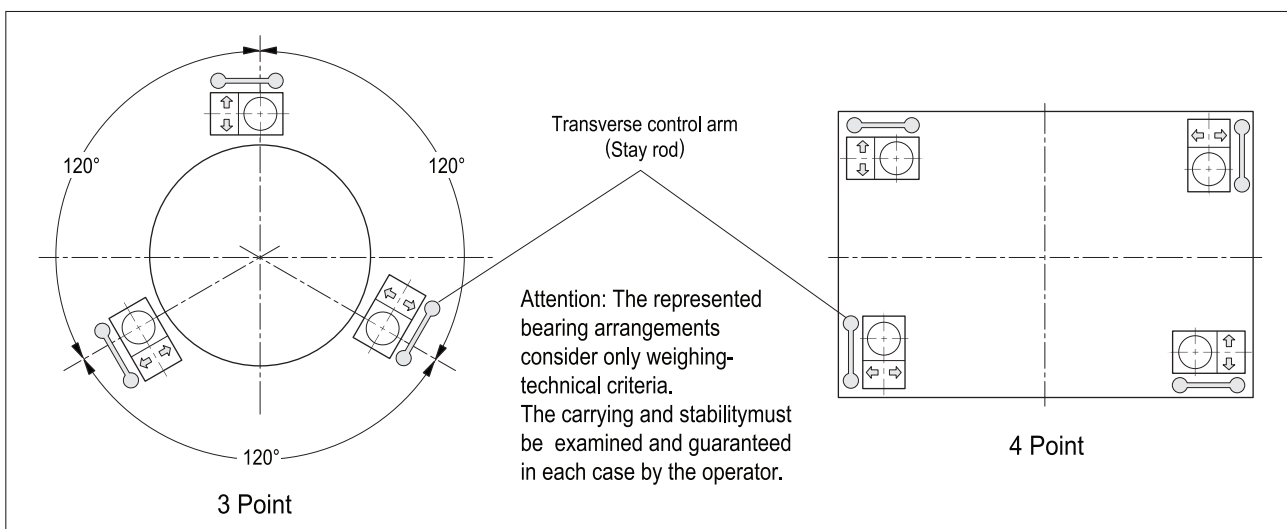
CM96 Load cell

>DIMENSIONS

unit:mm



Stay rod Installation Direction



★ Specifications are subject to change without notice.

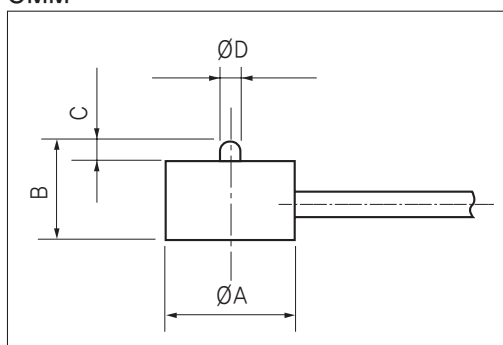
Miniature Compression Load Cells

>Model CMM, CMM2

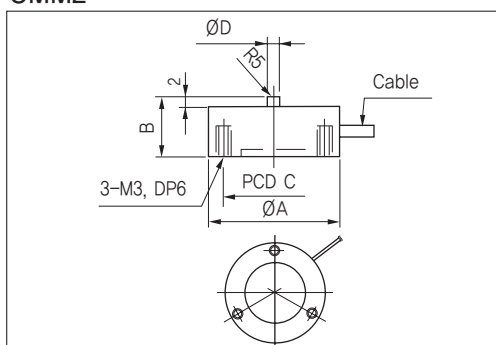
Optimum suitability for weight distribution analysis.
Super compact and lightweight.
Competitive price. Stainless steel construction.



CMM

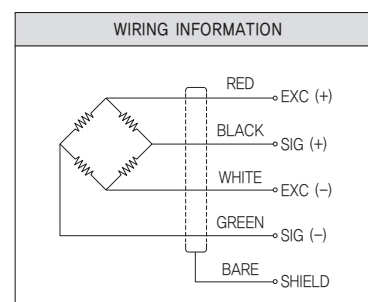


CMM2



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	1kgf, 2kgf, 5kgf, 10kgf, 20kgf, 50kgf, 100kgf, 200kgf, 500kgf, 1tf, 2tf, 3tf
Rated output(R.O.)	0.7mV/V to 1.2mV/V
Nonlinearity	≤1.0% R.O.(1tf~3tf : ≤2% R.O.)
Hysteresis	1.0% R.O.
Repeatability	1.0% R.O.
Zero Balance	±5% of R.O.
Terminal resistance, input	350Ω ±10%
Terminal resistance, output	350Ω ±5%
Temperature range, allowable	-20 to +70°C
Excitation recommended	5V DC
Overload allowable	150% R.C.
Cable length	Ø3 4core cable, 3m



>DIMENSIONS TABLE (CMM)

unit:mm

Capacity	A	B	C	ØD	Weight(kg)
1kgf (9.807N)	16	12	2	2.5	0.2
2kgf (19.61N)	16	12	2	2.5	
5kgf (49.03N)	16	12	2	2.5	
10kgf (98.07N)	20	11.5	2	2.5	
20kgf (196.1N)	20	11.5	2	2.5	
50kgf (490.3N)	20	11.5	2	2.5	
100kgf (980.7N)	20	11.5	2	2.5	
200kgf (1,961kN)	20	11.5	2	2.5	
300kgf (2,942kN)	20	14	0.7	4	0.3
500kgf (4,903kN)	20	14	0.7	4	
1tf (9,807kN)	20	14	0.7	4	
2tf (19,61kN)	20	14	0.7	4	
3tf (29,42kN)	20	14	0.7	4	

>DIMENSIONS TABLE (CMM2)

unit:mm

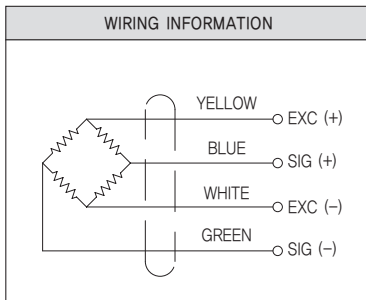
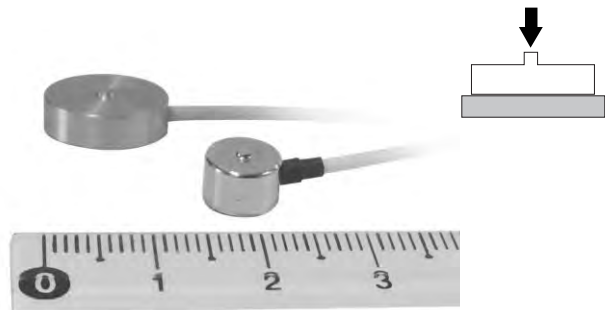
Capacity	ØA	B	PCD C	ØD	Weight(kg)
1kgf (9.807N)	21	12	17	2.5	0.3
2kgf (19.61N)	21	12	17	2.5	
5kgf (49.03N)	21	12	17	2.5	
10kgf (98.07N)	26	12	21	2.5	
20kgf (196.1N)	26	12	21	2.5	
50kgf (490.3N)	26	12	21	2.5	
100kgf (980.7N)	26	12	21	2.5	
200kgf (1,961kN)	26	12	21	2.5	
300kgf (2,942kN)	26	14	21	4	
500kgf (4,903kN)	26	14	21	4	
1tf (9,807kN)	26	14	21	4	
2tf (19,61kN)	26	14	21	4	
3tf (29,42kN)	26	14	21	8	

★Specifications are subject to change without notice.

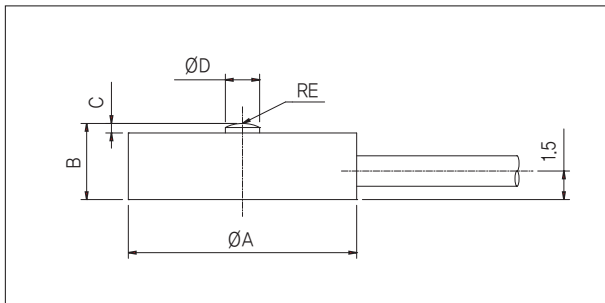
Miniature Compression Load Cells

>Model CMM92, CMM97

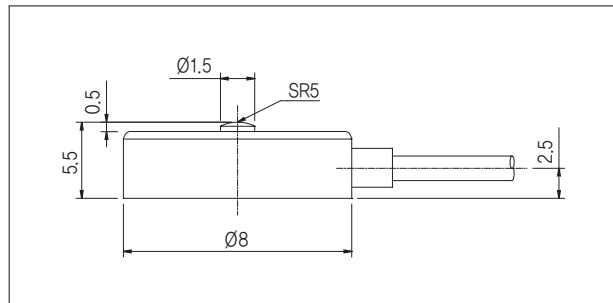
Small-Sized Compression Load Cell.
Super compact and lightweight.
Competitive price.



CMM92



CMM97



>SPECIFICATIONS

Specifications	Accuracy	
	CMM92	CMM97
Rated capacity(R.C.)	1kgf, 2kgf, 5kgf, 10kgf, 20kgf	20kgf ~ 50kgf
Rated output(R.O.)	0.5 or more(mV/V)	
Nonlinearity	±1% of R.O.	
Hysteresis	±1% of R.O.	
Repeatability	1% of R.O.	
Zero balance	±2% of R.O.	
Temperature range, compensated	0~40℃	
Temperature range, safe	-10~60℃	
Temperature effect, on rated output	±2%LOAD/10℃	
Temperature effect, on zero balance	±2%R.O./10℃	
Terminal resistance	350Ω ±2.5%	350Ω ±5%
Insulation resistance bridge/case	2000MΩ	
Electrical connenction	Ø1.6 × 4C × 3m	
Excitation recommended	5V	
Safe overload	120% R.C.	
Material	Aluminum(1kgf, 2kgf)/Stainless steel(5kgf, 10kgf, 20kgf)	Stainless steel

>DIMENSIONS TABLE (CMM92)

unit:mm

Capacity	ØA	B	C	ØD	E
1kgf ~ 5kgf	12	4	0.5	1.8	2
10kgf ~ 20kgf	15	4	0.5	2.5	4

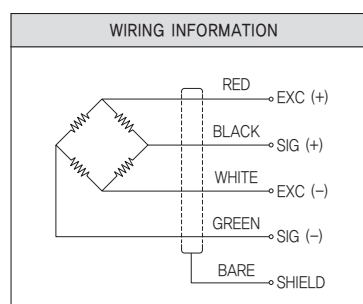
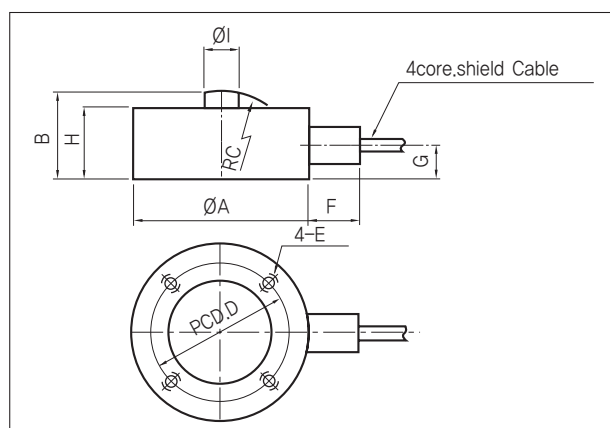
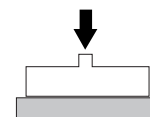
★Specifications are subject to change without notice.

Miniature Compression Load Cells

>Model CM, CM2

Compression Load Cell.

These load cells are extremely small and lightweight.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	50kgf, 100kgf, 200kgf, 500kgf, 1tf, 2tf, 3tf, 5tf, 10tf (490.3N, 980.7N, 1,961kN, 4,903kN, 9,807kN, 19,61kN, 49,03kN, 98,07kN)
Rated output(R.O.)	2mV/V±0.4%
Nonlinearity	0.15% of R.O. (CM2 : 0.3% of R.O.)
Hysteresis	0.1% of R.O.
Repeatability	0.1% of R.O.
Zero balance	±2% of R.O.
Temperature effect, on rated output	0.1% of R.O./10°C
Temperature effect, on zero balance	0.05% of R.O./10°C
Temperature range, compensated	-10~70°C
Temperature range, safe	-20~80°C
Terminal resistance input	350±50Ω
Terminal resistance output	350±2Ω
Insulation resistance bridge/case	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	50kgf~2tf : Ø5mm 4core, 3m / 3tf~10tf : Ø7mm 4core, 3m

>DIMENSIONS TABLE

unit:mm

Model	Capacity	ØA	B	C	D	E	F	G	H	ØI	Weight(kg)
CM	50kgf~2tf (490kN~19,61kN)	51	26	R50	42	M5×0.8DP6	15	10.5	22	10	0.4
	3tf, 5tf (49,03kN)	88	42	R150	72	M6×1DP10	23	17	37	18	2
	10tf (98,07kN)	88	47	R150	72	M6×1DP10	23	17	42	18	2
CM2	3tf, 5tf (49,03kN)	51	26	R50	42	M5×0.8DP6	15	10.5	22	10	0.4

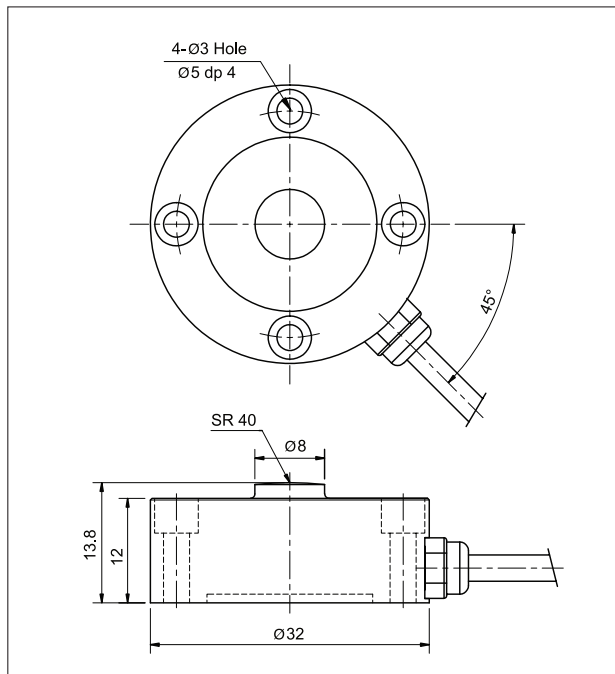
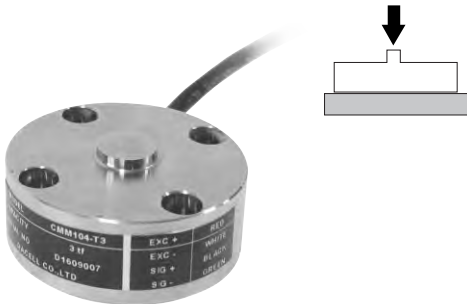
★Specifications are subject to change without notice.

Miniature Compression Load Cell

Compression Load Cell

>Model CMM104

Compression Load Cell.
These load cells are extremely small and lightweight.



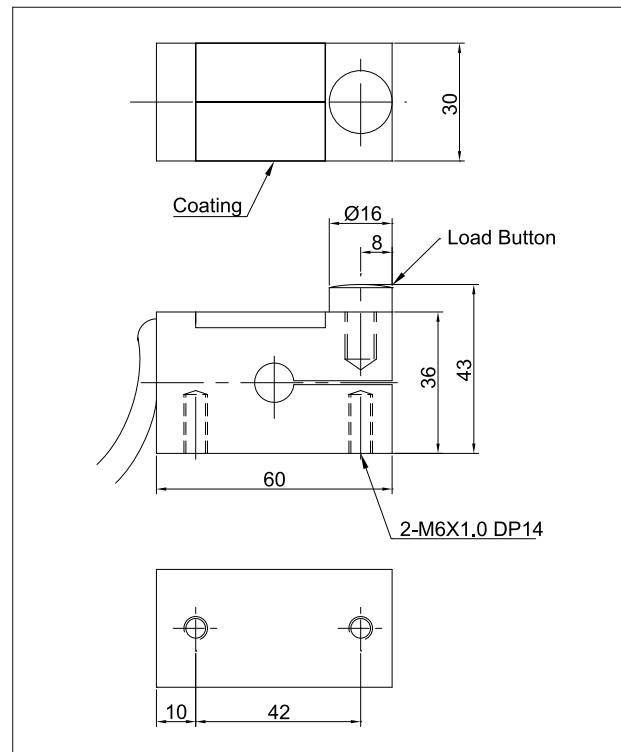
>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	3tf
Rated output(R.O.)	0.7 ~ 1.2mV/V
Nonlinearity	1% of R.O.
Hysteresis	1% of R.O.
Repeatability	1% of R.O.
Zero balance	±5% of R.O.
Temperature effect, on rated output	0.05% of LOAD/10°C
Temperature effect, on zero balance	0.05% of R.O./10°C
Temperature range, compensated	-10 ~ 60°C
Temperature range, safe	-20 ~ 70°C
Terminal resistance input	350±35Ω
Terminal resistance output	350±10Ω
Insulation resistance bridge to ground	2000MΩ
Excitation recommended	5V
Safe overload	150% R.C.
Cable length	Ø3mm 4core, 3m

★Specifications are subject to change without notice.

>Model CS213

Small size.
Force control application.
Elevator weighing.



>SPECIFICATIONS

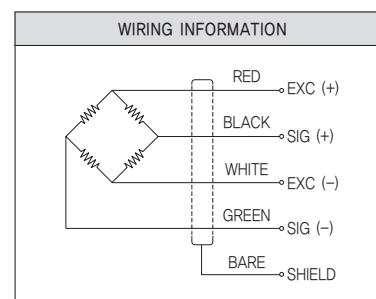
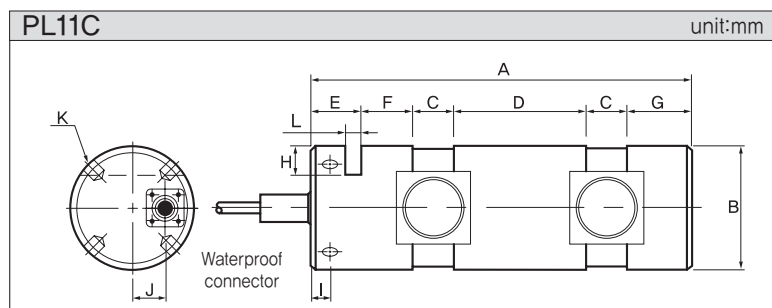
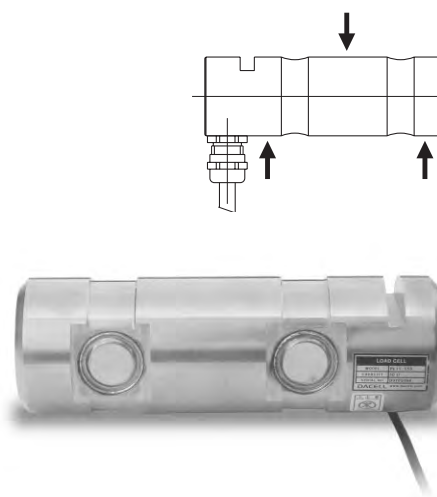
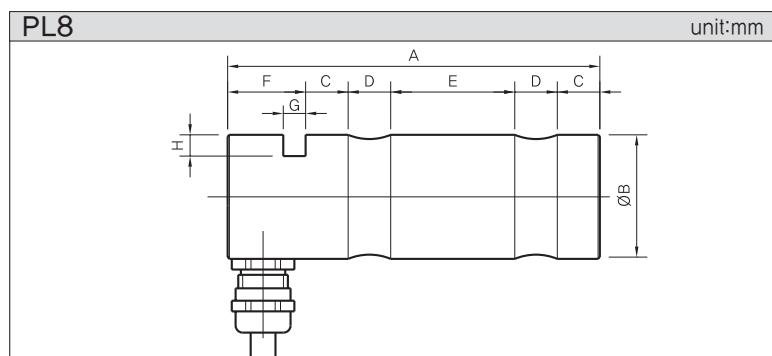
Specifications	Accuracy
Rated capacity(R.C.)	1.5ton
Rated output(R.O.)	1.5mV/V±1%
Nonlinearity	2% R.O.
Hysteresis	2% R.O.
Repeatability	0.5% R.O.
Zero balance	±1% R.O.
Temperature effect, on rated output	±0.05% of LOAD/10°C
Temperature effect, on zero balance	±0.05% of R.O./10°C
Temperature range, compensated	-10°C ~ 40°C
Temperature range, safe	-20°C ~ 70°C
Terminal resistance input	420±5Ω
Terminal resistance output	350±5Ω
Insulation resistance bridge to ground	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø5mm 4core, 3m

Pin Type Load Cells

>Model PL8, PL11C

Pin Type, Load cells made from stainless steel, Small size, easy to install.
Load cells for crane scale system and Load limiter system.

- Protection class IP67



>SPECIFICATIONS

Specifications	Accuracy	
	PL8	PL11C
Rated capacity(R.C.)	2tf, 5tf, 10tf, 20tf, 40tf	50tf, 100tf, 125tf, 150tf, 200tf
Rated output(R.O.)	1mV/V $\pm$ 0.5%	1mV/V $\pm$ 0.5%
Nonlinearity	0.15% of R.O.	0.15% of R.O.
Hysteresis	0.15% of R.O.	0.1% of R.O.
Reperatability	0.1% of R.O.	0.1% of R.O.
Creep	0.05% of R.O.	0.05% of R.O.
Zero balance	$\pm$ 1% of R.O.	$\pm$ 1% of R.O.
Excitation recommended	10V	10V
Terminal resistance input, output	700 Ω $\pm$ 1%	700 Ω $\pm$ 5%
Insulation resistance bridge	2000M Ω	2000M Ω
Temperature range, compensated	-10 $\sim$ 70 $^{\circ}$ C	-10 $\sim$ 70 $^{\circ}$ C
Temperature range, safe	-20 $\sim$ 80 $^{\circ}$ C	-20 $\sim$ 80 $^{\circ}$ C
Temp. effect on rated output	$\pm$ 0.01% of LOAD/10 $^{\circ}$ C	$\pm$ 0.01% of LOAD/10 $^{\circ}$ C
Temperature effect, on zero balance	$\pm$ 0.02% of R.O./10 $^{\circ}$ C	$\pm$ 0.02% of R.O./10 $^{\circ}$ C
Safe overload	120% R.C.	150% R.O.
Cable length	$\varnothing$ 5, 4core, 3m	$\varnothing$ 7, 4core shield, 2m

>DIMENSIONS TABLE (PL8)

unit:mm

Model	Capacity	A	B	C	D	E	F	G	H
PL8-T2	2tf (19.61kN)	105	35	12	12	35	22	6.3	6
PL8-T5	5tf (49.03kN)	105	35	12	12	35	22	6.3	6
PL8-T10	10tf (98.07kN)	152	50	18	18	48	32	10.5	5
PL8-T20	20tf (196.1kN)	190	65	20	25	65	35	10.5	10
PL8-T40	40tf (392.3kN)	256	85	28	35	89	41	12.5	14.5

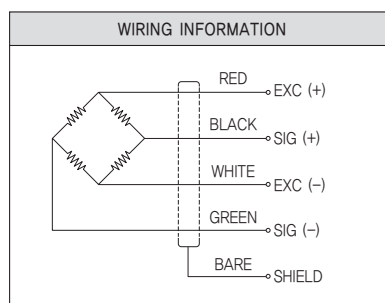
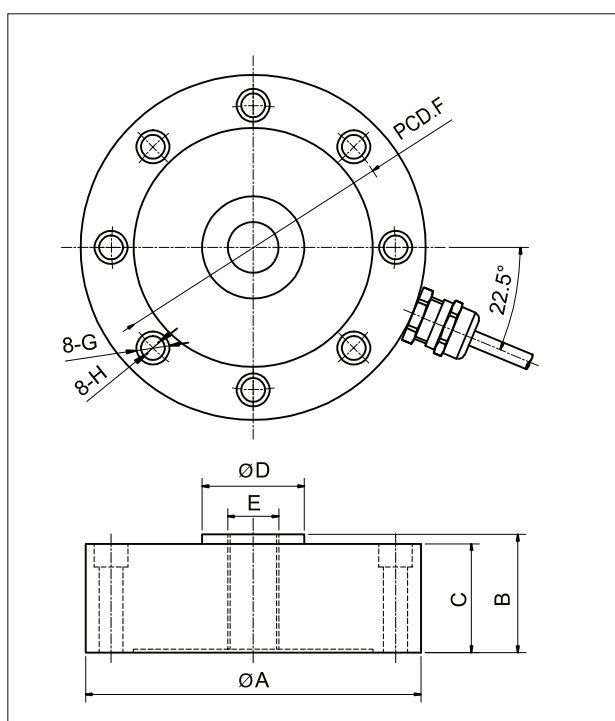
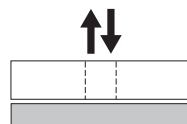
Model	Capacity	A	$\varnothing$ B	C	D	E	F	G	H	I	J	K	L
PL11C-T50	50tf (490.35kN)	258	85	28	89	34	35	44	20	13	22.5	4- $\varnothing$ 10 DP10	10.5
PL11C-T100	100tf (980.7kN)	347	100	35	120	36	55	66	14	13	28	4- $\varnothing$ 10 DP10	10.5
PL11C-T125	125tf (1225.87kN)	347	120	35	120	36	55	66	40	13	34.5	4- $\varnothing$ 10 DP10	12.5
PL11C-T150	150tf (1471.05kN)	450	140	50	140	70	70	70	40	20	35	6- $\varnothing$ 12 DP10	30
PL11C-T200	200tf (1961.4kN)	356	160	50	80	50	38	88	24	15	35	6- $\varnothing$ 12 DP20	20

★Specifications are subject to change without notice.

Low Profile Compression Load Cell

>Model UL277

Pancake type load cell.
Alloy steel construction.
High accuracy, Low profile, Easy to install.
Protected against corrosion by nickel plated treatment
Suitable for testing machine, truck scales and big bin
& hopper scales, etc.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	1t, 2t, 3t, 5t, 10t, 15t, 20t, 25t, 30t
Rated output(R.O.)	2mV/V $\pm 0.5\%$
Nonlinearity	0.05% of R.O.
Hysteresis	0.05% of R.O.)
Reperatability	0.05% of R.O.
Zero balance	$\pm 1\%$ of R.O.
Temp. effect on rated output	$\pm 0.05\%$ of LOAD/ 10°C
Temperature effect, on zero balance	$\pm 0.05\%$ of R.O./ 10°C
Temperature range, compensated	$-10\sim 60^\circ\text{C}$
Temperature range, safe	$-20\sim 80^\circ\text{C}$
Terminal resistance input	$700\pm 10\Omega$
Terminal resistance output	$700\pm 5\Omega$
Insulation resistance bridge	$2000M\Omega$
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	$\varnothing 5\text{mm}$ 4core, 3m

>DIMENSIONS TABLE

unit:mm

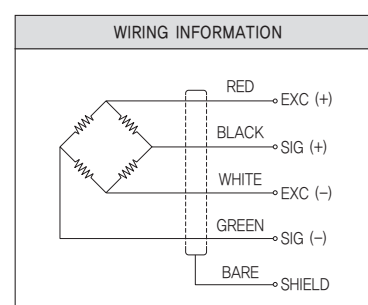
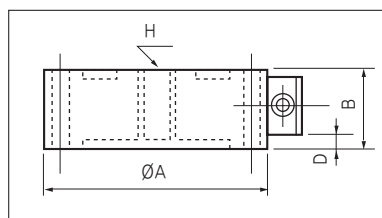
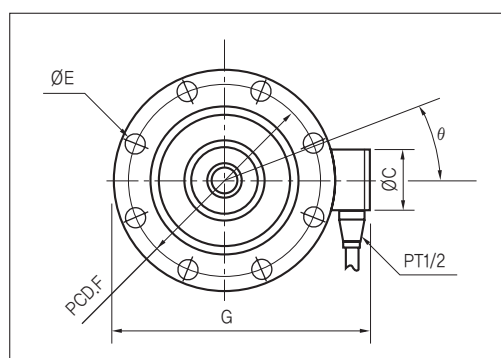
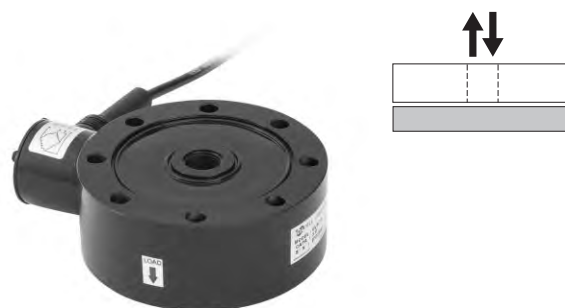
Model	ØA	B	C	ØD	E	F	G	H
1t, 2t, 3t, 5t	105	37	34	32	M16×1.5	89	Ø10.5 DP 7.2	Ø7.5
10t, 15t, 20t, 25t	120.6	53.5	41	39	M32×1.5	101.8	Ø14 DP 10.5	Ø8.5
30t	141	57.2	50.8	50.4	M40×1.5	116.8	Ø18 DP 11	Ø11

★ Specifications are subject to change without notice.

Low Profile Tension or Compression Load Cells

>Model UL, UL272

Applicable for both compression and tension methods.
Being tough against twisting momentum, most suitable for load fatigue testing repeat test of load etc.
UL : Painted finished steel, Protection Class IP67.
ULH : Nikel planted steel



>SPECIFICATIONS

Specifications	Accuracy		
	UL	ULH	UL272
Rated capacity(R.C.)	500kgf, 1tf, 2tf, 5tf, 10tf, 20tf, 30tf, 50tf, 100tf, 200tf, 300tf, 500tf	500kgf, 1tf, 2tf, 5tf, 10tf, 20tf, 50tf	1.5tf, 2tf, 3tf, 4tf, 5tf, 7tf, 8tf, 14tf
Rated output(R.O.)	2mV/V±0.1%	2mV/V±0.1%	2mV/V±0.1%
Nonlinearity	0.05% of R.O.(300tf~500tf : 0.5%)	0.02% of R.O.	0.1% of R.O.
Hysteresis	0.05% of R.O.(300tf~500tf : 0.5%)	0.02% of R.O.	0.1% of R.O.
Repeatability	0.03% of R.O.(300tf~500tf : 0.05%)	0.02% of R.O.	0.05% of R.O.
Zero balance	±2% of R.O.	±2% of R.O.	±2% of R.O.
Temperature effect, on rated output	0.05% of LOAD/10°C	0.03% of LOAD/10°C	0.05% of LOAD/10°C
Temperature effect, on zero balance	0.05% of R.O./10°C	0.03% of R.O./10°C	0.05% of R.O./10°C
Temperature range, compensated	-10~60°C	-10~60°C	-10~60°C
Temperature range, safe	-20~80°C	-20~80°C	-20~70°C
Terminal resistance input	700±5Ω	700±50Ω	700±50Ω
Terminal resistance output	700±3Ω	700 ±3Ω	700 ±3Ω
Insulation resistance bridge/case	2000MΩ	2000MΩ	2000MΩ
Excitation recommended	10V	10V	10V
Safe overload	150% R.C.	150% R.C.	150% R.C.
Cable length	Ø7mm 4core, 3m	Ø7mm 4core, 3m	Ø7mm 4core, 3m

>DIMENSIONS TABLE

unit:mm

Capacity	ØA	B	ØC	D	E	F	G	H	
500kgf (4.903kN)	88	25	22	1.5	6-Ø6.5	75	108	M12×1.25	1
1tf (9.807kN)	118	46	43	1.5	8-Ø9	100	153	M18×1.5	3
2tf (19.61kN)	118	46	43	1.5	8-Ø9	100	153	M18×1.5	
5tf (49.03kN)	118	46	43	1.5	8-Ø9	100	153	M18×1.5	
10tf (98.07kN)	178	65	43	11	8-Ø13	155	215	M24×2	9
20tf (196.1kN)	178	65	43	11	8-Ø13	155	215	M39×2	
50tf (490.3kN)	226	100	43	28.5	12-Ø18	190	266	M50×2	23
100tf (980.7kN)	310	130	43	43.5	16-Ø22	260	350	M76×3	60
200tf (1961kN)	380	170	43	63	16-Ø38	315	420	M100×3	90
300tf (2942kN)	450	200	50	75	16-Ø45	365	490	M140×3	180
500tf (4903kN)	496	300	70	115	16-Ø52	420	536	M180×3	245

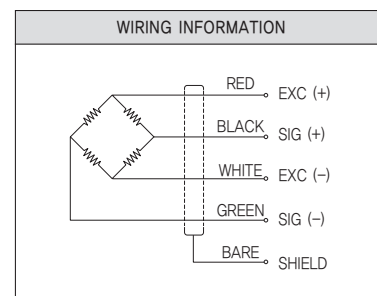
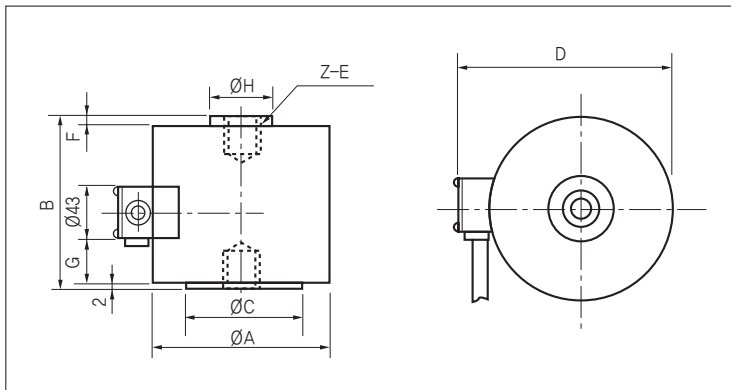
Model	UL272							
Capacity	ØA	B	ØC	D	E	F	G	ØH
UL272, 1.5tf~5tf	118	46	40	3	8-Ø9 hole	100	153	M27 x 2
UL272, 7tf, 8tf	144	55	40	7.5	8-Ø11 hole	120	178	M27 x 2
UL272, 14Tf	157	64	40	12	8-Ø14 hole	135	192	M39 x 2

★Specifications are subject to change without notice.

Tension Load Cells

>Model TX, TX61

High Accuracy Tension Service.
Hopper, Tank Weighing.
Protection Class IP67
TX, TX61 : Painted finished steel.
TXH : Nikel planted steel



>SPECIFICATIONS

Specifications	TXH	TXM	TXG	TX61
Rated capacity(R.C.)	1tf, 2tf, 3tf, 5tf, 10tf, 20tf	100kgf, 200kgf, 500kgf, 1tf, 2tf, 3tf, 5tf, 10tf, 20tf	100kgf, 200kgf, 500kgf, 1tf, 2tf, 3tf, 5tf, 10tf, 20tf, 50tf, 100tf	200kgf, 1tf, 10tf, 25tf
Rated output(R.O.)	2.0mV/V $\pm$ 0.1%	2.0mV/V $\pm$ 0.1% (500tf~500tf 1.5mV/V)	2.0mV/V $\pm$ 0.1% (500tf~500tf 1.5mV/V)	2.0mV/V $\pm$ 1%
Nonlinearity	0.02% of R.O.	0.05% of R.O.	0.1% of R.O.	0.1% of R.O.
Hysteresis	0.02% of R.O.	0.05% of R.O.	0.1% of R.O.	0.1% of R.O.
Repeatability	0.02% of R.O.	0.05% of R.O.	0.1% of R.O.	0.1% of R.O.
Zero balance	$\pm$ 1% of R.O.	$\pm$ 1% of R.O.	$\pm$ 1% of R.O.	$\pm$ 1% of R.O.
Temperature effect, on rated output	0.03% of LOAD/10 $^{\circ}$ C	0.03% of LOAD/10 $^{\circ}$ C	0.1% of LOAD/10 $^{\circ}$ C	0.1% of LOAD/10 $^{\circ}$ C
Temperature effect, on zero balance	0.03% of R.O./10 $^{\circ}$ C	0.03% of R.O./10 $^{\circ}$ C	0.1% of R.O./10 $^{\circ}$ C	0.1% of R.O./10 $^{\circ}$ C
Temperature range, compensated	-10 $\sim$ 60 $^{\circ}$ C	-10 $\sim$ 60 $^{\circ}$ C	-10 $\sim$ 60 $^{\circ}$ C	-10 $\sim$ 60 $^{\circ}$ C
Temperature range, safe	-20 $\sim$ 80 $^{\circ}$ C	-20 $\sim$ 80 $^{\circ}$ C	-20 $\sim$ 80 $^{\circ}$ C	-20 $\sim$ 80 $^{\circ}$ C
Terminal resistance input	350 $\pm$ 5 Ω	350 $\pm$ 5 Ω	350 $\pm$ 5 Ω	350 $\pm$ 5 Ω
Terminal resistance output	350 $\pm$ 5 Ω	350 $\pm$ 5 Ω	350 $\pm$ 5 Ω	350 $\pm$ 5 Ω
Insulation resistance bridge/case	5000M Ω	5000M Ω	5000M Ω	5000M Ω
Excitation recommended	10V	10V	10V	10V
Safe overload	150%	150%	150%	150%
Cable length	Ø7mm 4core, 3m	Ø7mm 4core, 3m	Ø7mm 4core, 3m	Ø7mm 4core, 3m

>DIMENSIONS TABLE

unit:mm

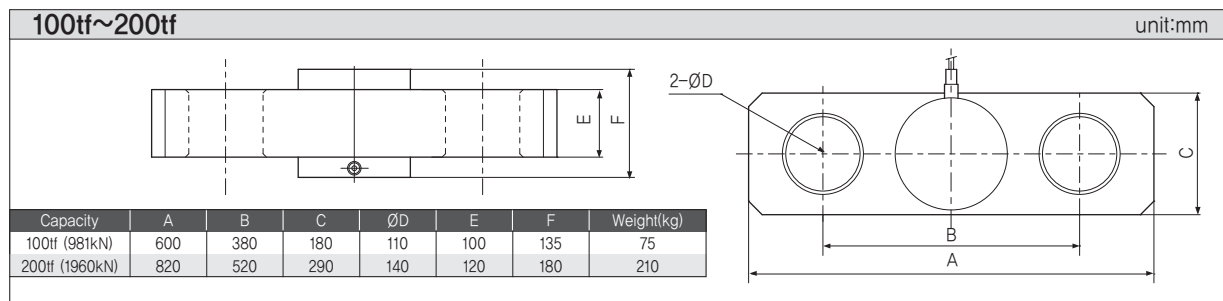
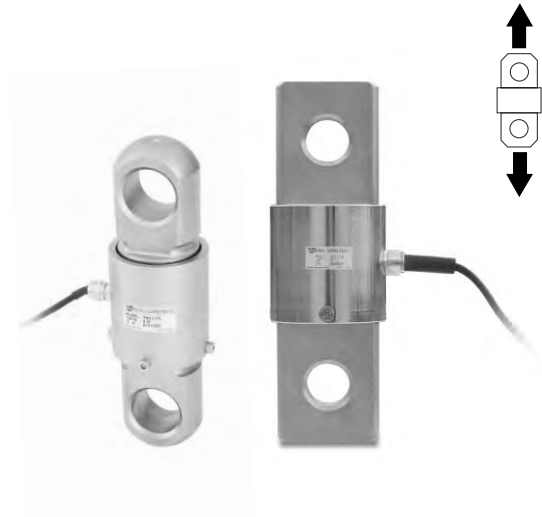
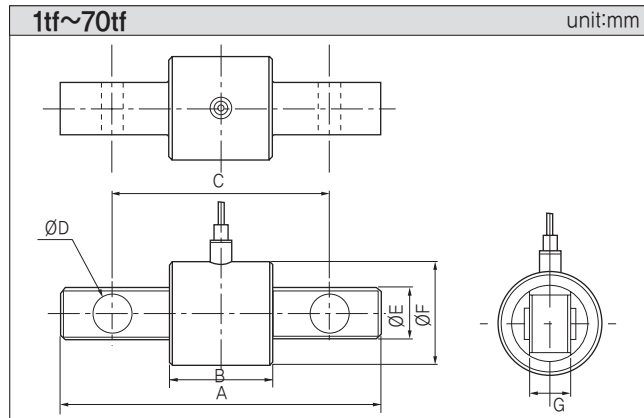
Capacity	ØA	B	ØC	D	E	F	G	ØH	Weight(kg)
100kgf (980.7N)	88	107	50	118	M12×1.25 DP15	4	25	24	3
200kgf (1.961kN)	88	107	50	118	M12×1.25 DP15	4	25	24	
500kgf (4.903kN)	88	107	50	118	M12×1.25 DP15	4	25	24	
1tf (9.807kN)	88	107	50	118	M12×1.25 DP15	4	25	24	
2tf (19.61kN)	88	150	66	118	M24×2 DP30	5	42	30	5
3tf (29.42kN)	88	150	66	118	M24×2 DP30	5	42	30	
5tf (49.03kN)	88	150	66	118	M24×2 DP30	5	42	30	
10tf (98.07kN)	137	220	66	167	M39×2 DP50	8	65	62	
20tf (196.1kN)	137	240	66	167	M50×2 DP65	8	75	62	11
50tf (490.3kN)	213	410	130	245	M76×3 DP115	25	140	116	
100tf (980.7kN)	267	500	192	315	M100×3 DP150	25	250	196	
Model	TX61								
Capacity	ØA	B	ØC	D	E	F	G	ØH	
TX61-200K, 200Kgf	88	150	50	–	2*M16x1.5 DP35	4	–	24	
TX61-1T, 1Tf	88	150	50	–	2*M18x2 DP35	4	–	24	
TX61-10T, 10Tf	137	200	66	–	2*M27x2 DP35	8	–	62	
TX61-25T 25Tf	137	200	66	–	2*M52x2 DP35	8	–	62	

★Specifications are subject to change without notice.

Tension Load Cell

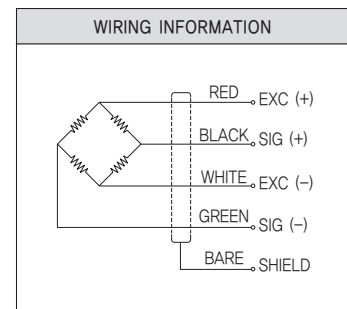
>Model TS21

Crane Weighing, Tower Testing.
Tension Load cell.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	1tf, 2tf, 3tf, 5tf, 10tf, 20tf, 30tf, 50tf, 70tf, 100tf, 200tf
Rated output(R.O.)	1mV/V±0.5%
Nonlinearity	0.5% of R.O.
Reperatability	0.1% of R.O.
Hysteresis	0.1% of R.O.
Zero balance	±1% of R.O.
Terminal resistance input	350±10Ω
Terminal resistance output	350±5Ω
Insulation resistance bridge/case	2000MΩ
Temperature range, compensated	-10~60℃
Temperature range, safe	-20~80℃
Temperature effect, on rated output	0.1% of R.O./10℃
Temperature effect, on zero balance	0.05% of LOAD/10℃
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø7, 4core, 10m



>DIMENSIONS TABLE

unit:mm

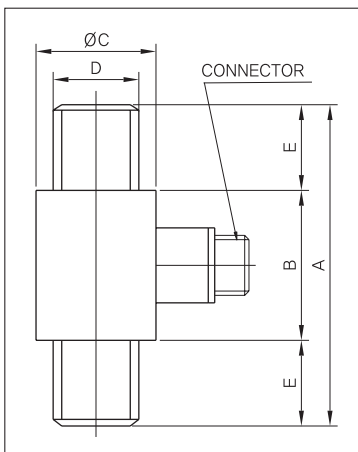
Capacity	A	B	C	ØD	ØE	ØF	G	Weight(kg)
1tf (9.81kN)	140	70	110	18	32	50	20	2
2tf (19.6kN)	163	70	120	22	39	50	25	
3tf (29.4kN)	180	63	128	27	49	60	30	
5tf (49.0kN)	234	80	168	37	59	70	40	3.5
10tf (98.1kN)	310	100	210	37	89	100	40	9
20tf (196kN)	400	120	285	62	120	135	70	23
30tf (294kN)	428	128	288	64	120	135	75	26
50tf (490kN)	508	148	342	75	145	160	98	43
70tf (686kN)	620	150	410	100	170	210	100	68

★Specifications are subject to change without notice.

Compression & Tension Load Cell

>Model TX25

Model TX25 load cells measure both tension & compression load force. Applications include performance testers for automotive industry.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	100kgf~300tf (981N~2,942MN)
Rated output(R.O.)	1mV/V±1%
Nonlinearity	0.15% of R.O.
Hysteresis	0.15% of R.O.
Reperatability	0.1% of R.O.
Creep	0.05% of R.O.
Zero balance	±1% of R.O.
Excitation recommended	10V
Terminal resistance input, output	350Ω ±5%
Insulation resistance bridge	2000MΩ
Temperature range, compensated	-10~60℃
Temperature range, safe	-20~80℃
Temp. effect on rated output	±0.01% of LOAD/10℃
Temperature effect, on zero balance	±0.02% of R.O./10℃
Safe overload	120% R.C.
Cable length	Ø5, 4core, 3m

>DIMENSIONS TABLE

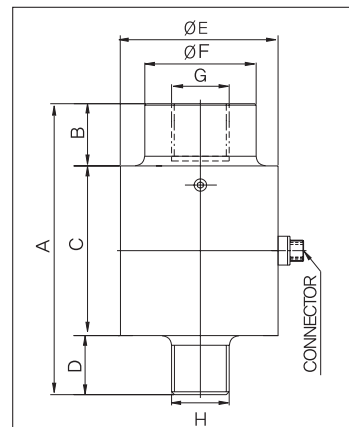
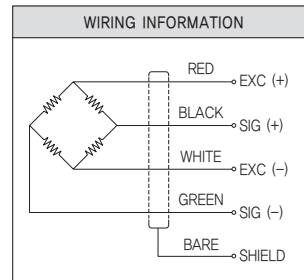
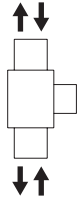
unit:mm

Model	Capacity	A	B	ØC	D	E	Weight(kg)
TX25-K100	100kgf (980.7N)	75	35	28	M16×1.5	20	0.5
TX25-K200	200kgf (1,961kN)	75	35	28	M16×1.5	20	
TX25-K500	500kgf (4,903kN)	75	35	28	M16×1.5	20	
TX25-T1	1tf (9,807kN)	75	35	28	M20×1.5	20	
TX25-T2	2tf (19,61kN)	75	35	28	M20×1.5	20	
TX25-T3	3tf (29,42kN)	75	35	28	M20×1.5	20	0.7
TX25-T5	5tf (49,03kN)	75	35	33	M24×2	20	
TX25-T10	10tf (98,07kN)	170	100	62.5	M39×2	35	2.5
TX25-T20	20tf (196,1kN)	190	100	63	M39×2	50	2.8
TX25-T50	50tf (490,3kN)	245	105	85	M64×2	70	7.5
TX25-T100	100tf (980,7kN)	340	140	115	M80×2	100	18
TX25-T200	200tf (1,961MN)	390	160	150	M110×2	115	36
TX25-T300	300tf (2,942MN)	450	194	169	M125×4	128	46

★Specifications are subject to change without notice.

>Model TB

Tension & compression load force.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	1tf~300tf (9,807kN~2,942MN)
Rated output(R.O.)	1~20tf : 1mV/V±2%, 50~300tf : 1.5mV/V±2%
Nonlinearity	0.15% of R.O.
Hysteresis	0.15% of R.O.
Reperatability	0.15% of R.O.
Creep	0.05% of R.O.
Zero balance	±1% of R.O.
Excitation recommended	10V
Terminal resistance input, output	350Ω ±5%
Insulation resistance bridge	2000MΩ
Temperature range, compensated	-10~50℃
Temperature range, safe	-20~70℃
Temp. effect on rated output	±0.03% of LOAD/10℃
Temperature effect, on zero balance	±0.03% of R.O./10℃
Safe overload	120% R.C.
Cable length	Ø5, 4core Shield Cable, 3m

>DIMENSIONS TABLE

unit:mm

Model	Capacity	A	B	C	D	E	F	G	H	Weight(kg)
TB25-T1	1tf (9,807kN)	75	25.5	24.5	25	Ø30	Ø28	M20×1.5DP20	M20×1.5	2
TB25-T2	2tf (19,61kN)	75	25.5	24.5	25	Ø30	Ø28	M20×1.5DP20	M20×1.5	
TB25-T5	5tf (49,03kN)	173	30	100	43	Ø55.5	Ø42	M27×1.5DP40	M27×1.5	3
TB25-T10	10tf (98,07kN)	173	30	100	43	Ø62.5	Ø42	M27×1.5DP40	M27×1.5	
TB25-T20	20tf (196,1kN)	195	62.5	87.5	45	Ø62.5	Ø52	M33×2DP53	M33×2	5
TB25-T50	50tf (490,3kN)	295	50	190	55	Ø120	Ø78	M48×2DP55	M48×2	15
TB25-T100	100tf (980,7kN)	355	80	200	75	Ø176	Ø116	M72×6DP75	M72×6	35
TB25-T150	150tf (1,470MN)	385	125	170	90	Ø150	Ø130	M90×6DP90	M90×6	30
TB25-T200	200tf (1,961MN)	465	135	220	110	Ø190	Ø170	M110×6DP115	M110×6	58
TB25-T300	300tf (2,942MN)	496	143	200	153	Ø215	Ø185	M125×4DP125	M125×4	80

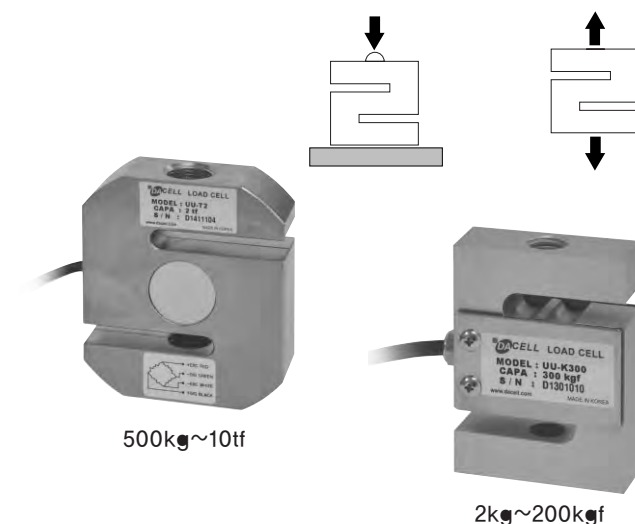
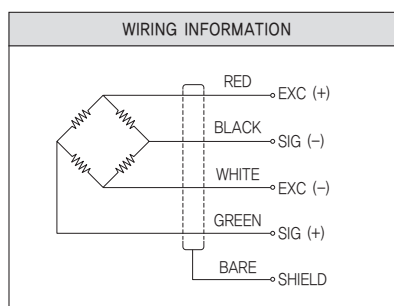
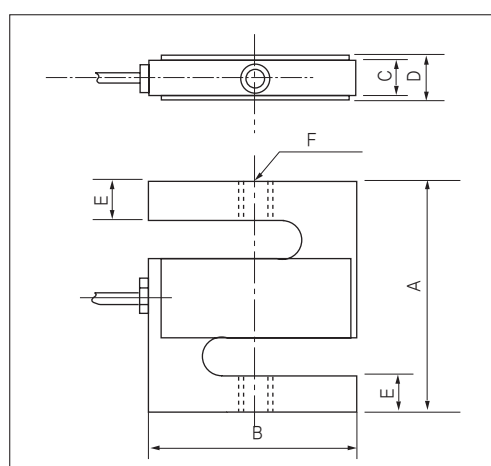
Universal Load Cell

>Model UU

Compact size.

These are extremely accurate and compact Ten-
sion/Compression load cell.

- 2kg~200kgf : Anodized Aluminum.
- 500kg~10tf : Nikel planted steel



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	2kg, 5kg, 10kgf, 20kgf, 50kgf, 100kgf, 200kgf, 300kgf, 500kgf, 1tf, 2tf, 3tf, 5tf, 10tf
Rated output(R.O.)	2.0mV/V±1%(2kgf, 5kgf:1.5mV/V±1%)
Nonlinearity	0.03% of R.O.
Hysteresis	0.03% of R.O.
Repeatability	0.03% of R.O.
Zero balance	±2% of R.O.
Temperature effect, on rated output	0.05% of LOAD/10℃
Temperature effect, on zero balance	0.1% of R.O./10℃
Temperature range, compensated	-10~60℃
Temperature range, safe	-20~80℃
Terminal resistance input	350±50Ω
Terminal resistance output	350±2Ω
Insulation resistance bridge/case	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	2kg~5kg : Ø3mm 4core, 3m / 10kg~10tf : Ø5mm 4core, 3m

>DIMENSIONS TABLE

unit:mm

Capacity	A	B	C	D	E	F	Weight(kg)
2kgf (19.61N)	60	50	13	16	10	M6×1	0.4
5kgf (49.03N)	60	50	13	16	10	M6×1	
10kgf (98.07N)	70	52	13	18	13	M6×1	
20kgf (196.1N)	70	52	13	18	13	M6×1	
50kgf (490.3N)	70	52	18	24	13	M12×1.75	
100kgf (980.7N)	70	52	18	24	13	M12×1.75	0.8
200kgf (1.961kN)	70	52	18	24	13	M12×1.75	
500kgf (4.903kN)	70	62	22	25	15	M12×1.75	
1tf (9.807kN)	70	62	22	25	15	M12×1.75	2
2tf (19.61kN)	96	84	30	35	21	M20×1.5	
3tf (29.42kN)	120	96	35	41	30	M24×2	3
5tf (49.03kN)	120	96	40	44	30	M24×2	
10tf (98.07kN)	165	140	60	66	46	M39×2	8.5

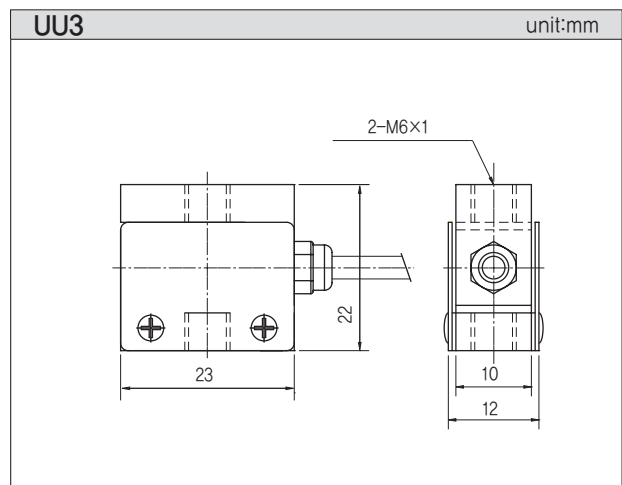
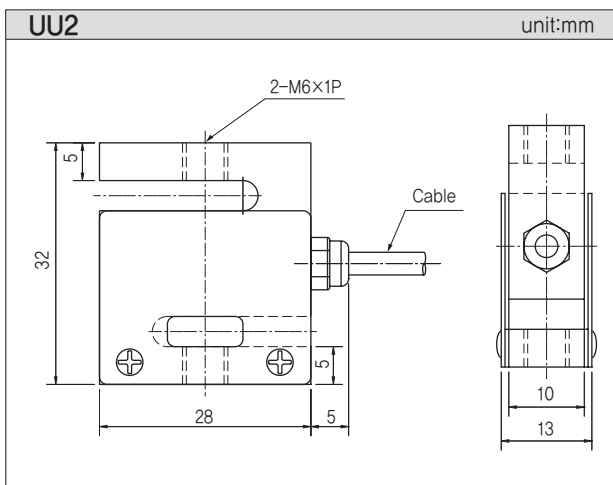
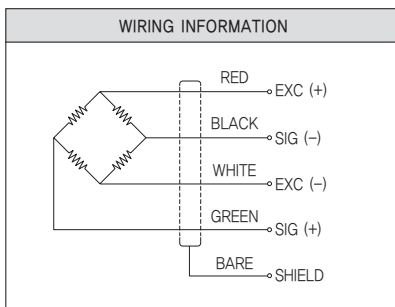
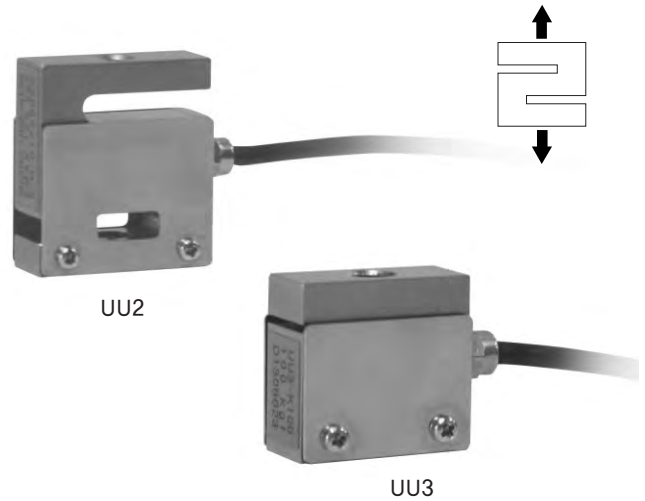
*Specifications are subject to change without notice.

Universal Load Cells

>Model UU2, UU3

Compact size.

These are extremely accurate and compact Tension/Compression load cell.



>SPECIFICATIONS

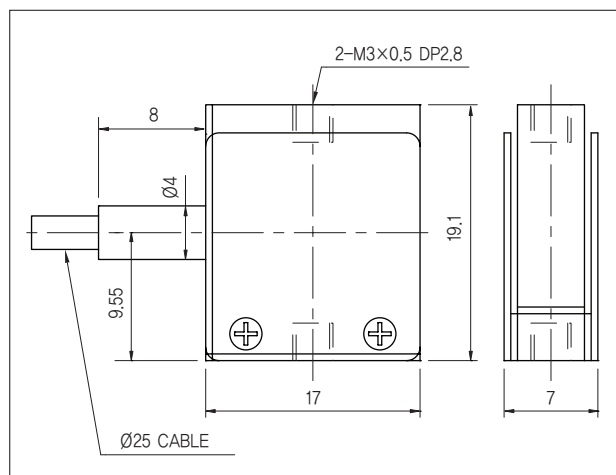
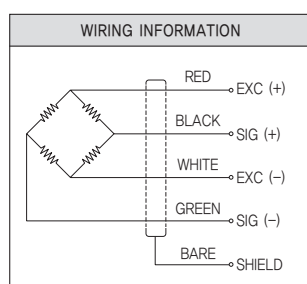
Specifications	Accuracy	
	UU2	UU3
Rated capacity(R.C.)	10kgf, 20kgf, 30kgf, 50kgf, 100kgf	5kgf, 10kgf, 20kgf, 50kgf, 100kgf
Rated output(R.O.)	2mV/V±2%	2mV/V±1%
Nonlinearity	0.05% of R.O.	0.05% of R.O.
Hysteresis	0.05% of R.O.	0.05% of R.O.
Repeatability	0.03% of R.O.	0.05% of R.O.
Zero balance	±1% of R.O.	±2% of R.O.
Temperature effect, on rated output	±0.03% of LOAD/10°C	0.05% of LOAD/10°C
Temperature effect, on zero balance	±0.03% of R.O./10°C	0.1% of R.O./10°C
Temperature range, compensated	-10°C~60°C	-10~60°C
Temperature range, safe	-20~80°C	-20~80°C
Terminal resistance input	350±80Ω	350±80Ω
Terminal resistance output	350±2Ω	350±2Ω
Insulation resistance bridge/case	2000MΩ	2000MΩ
Excitation recommended	10V	10V
Safe overload	150% R.C.	150% R.C.
Cable length	Ø3mm 4core, 1m	Ø3mm 4core, 1m
Material	10~30kgf : Aluminum/50~100kgf Steel	5~20kgf : Aluminum/50~100kgf Steel

★Specifications are subject to change without notice.

Universal Bending Beam Load Cell

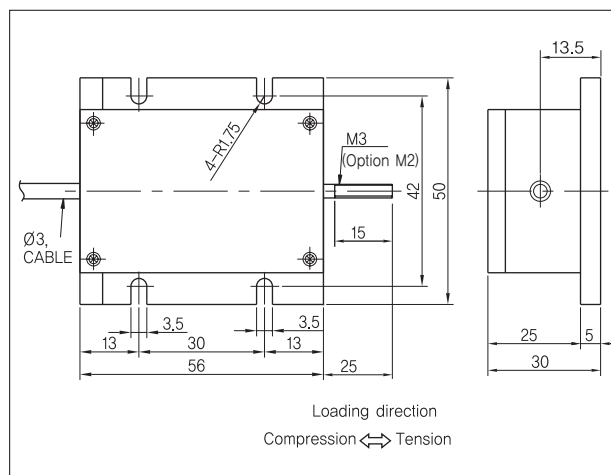
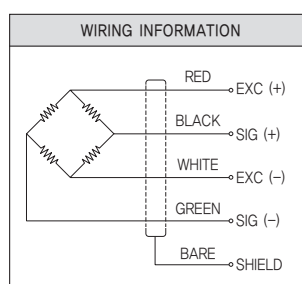
>Model UU74

Compact size.
Accurate Tension/Compression load cell.



>Model US

A low capacity, universal, bending beam load cell. The US is excellent when small force measurements are required.
A push-pull type.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	20N, 100N, 200N
Rated output(R.O.)	2mV/V ±25%
Nonlinearity	0.1% R.O.
Hysteresis	0.1% R.O.
Repeatability	0.5% R.O.
Zero balance	±3% R.O.
Temperature effect, on rated output	0.1% R.O./10°C
Temperature effect, on zero balance	0.1% LOAD/10°C
Temperature range, compensated	-10°C to 60°C
Temperature range, safe	-20°C to 80°C
Terminal resistance input	350Ω ± 50Ω
Terminal resistance output	350Ω ± 5Ω
Insulation resistance bridge/case	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø2.5, 4core shield cable, 1.5m

>SPECIFICATIONS

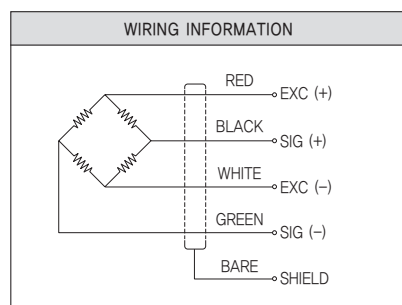
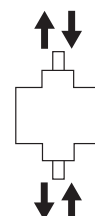
Specifications	Accuracy
Rated capacity(R.C.)	5N (500gf) to 19.61N (2kgf)
Rated output(R.O.)	1.2 ~ 1.5mV/V
Nonlinearity	0.2% R.O.
Hysteresis	0.2% R.O.
Repeatability	0.2% R.O.
Zero balance	±0.2mV/V
Temperature effect, on rated output	0.5% R.O./10°C
Temperature effect, on zero balance	0.5% LOAD/10°C
Temperature range, compensated	0°C to 50°C
Temperature range, safe	-10°C to 60°C
Terminal resistance input	350Ω ± 40Ω
Terminal resistance output	350Ω ± 40Ω
Insulation resistance bridge/case	1000MΩ or more (DC 50V)
Excitation recommended	5V
Safe overload	150% R.C.
Cable length	Ø3, 4core shield cable, 3m

★Specifications are subject to change without notice.

Miniature Tension Load Cells

>Model UM, UMA, UMF

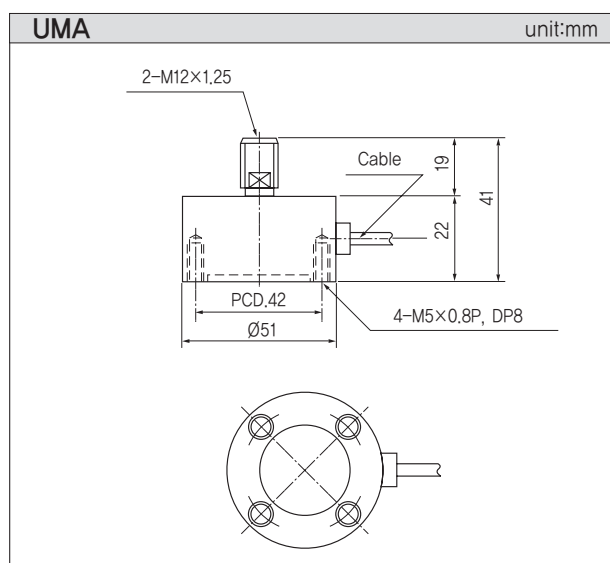
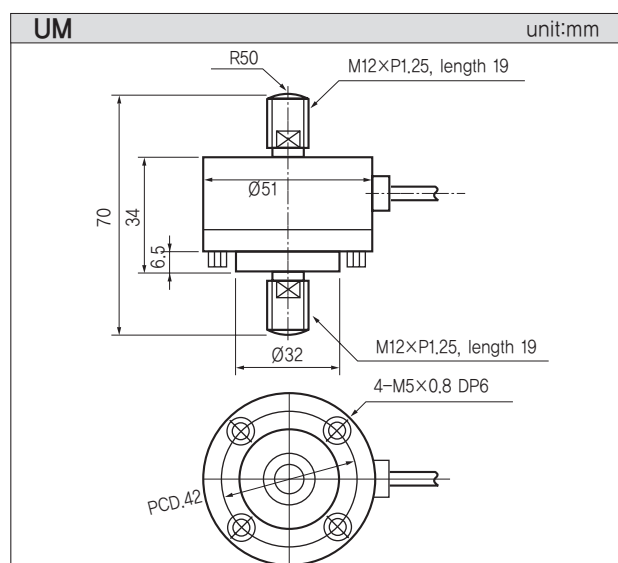
Compression or Tension load cell.
These load cells are extremely small and lightweight.
Protection Class IP66



UM



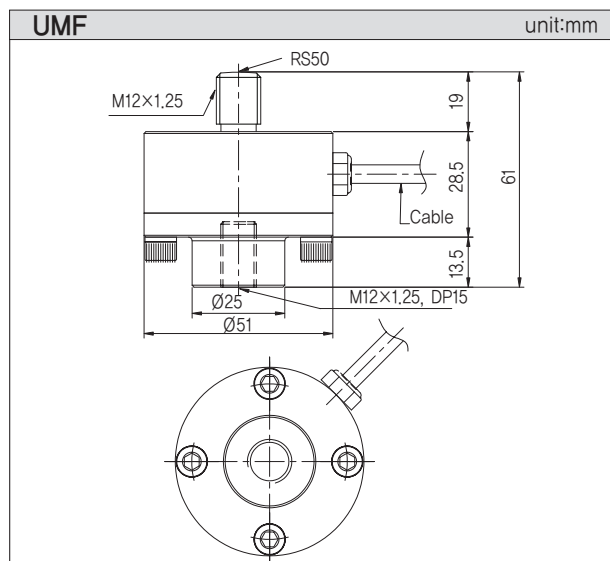
UMF



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	50kgf, 100kgf, 200kgf, 500kgf, 1tf, 2tf (490.3N, 980.7N, 1.961kN, 4.903kN, 9.807kN, 19.61kN)
Rated output(R.O.)	2mV/V $\pm$ 0.4%
Nonlinearity	0.15% of R.O.
Hysteresis	0.1% of R.O.
Repeatability	0.05% of R.O.
Zero balance	$\pm$ 2% of R.O.
Temperature effect, on rated output	0.1% of LOAD/10°C
Temperature effect, on zero balance	0.05% of R.O./10°C
Temperature range, compensated	-10~70°C
Temperature range, safe	-10~80°C
Terminal resistance input	350 $\pm$ 50 Ω
Terminal resistance output	350 $\pm$ 2 Ω
Insulation resistance bridge/case	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø5mm 4core, 3m

★Specifications are subject to change without notice.



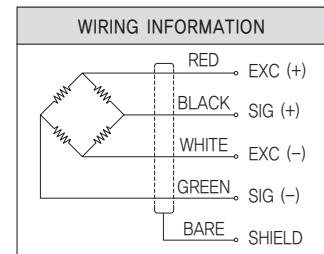
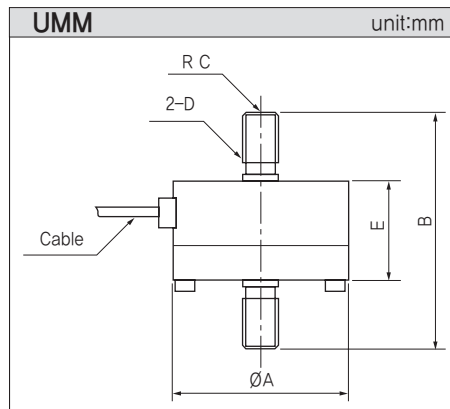
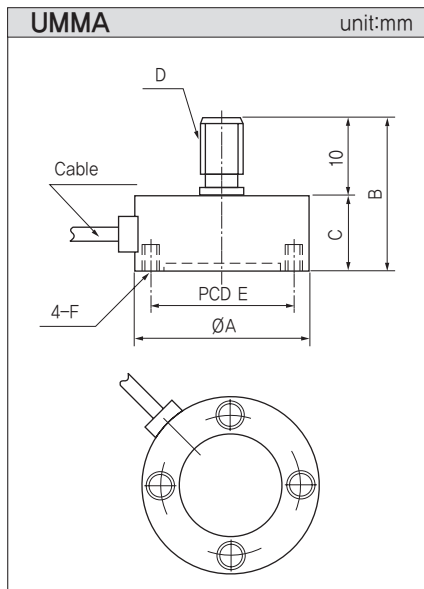
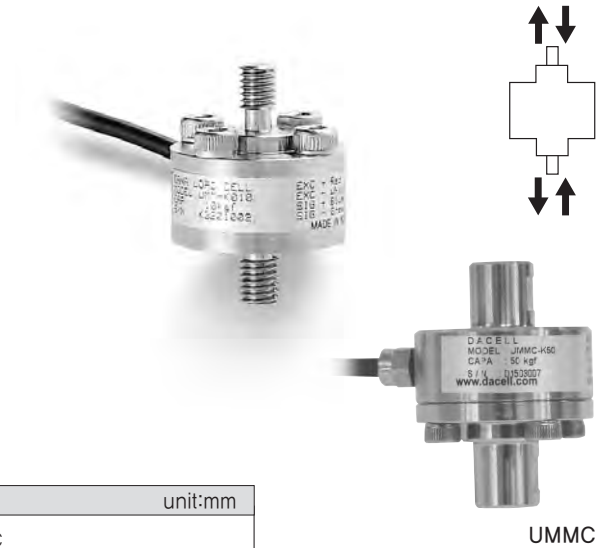
Miniature Tension Load Cells

>Model UMM, UMMA, UMMC

Compression or Tension load cell.

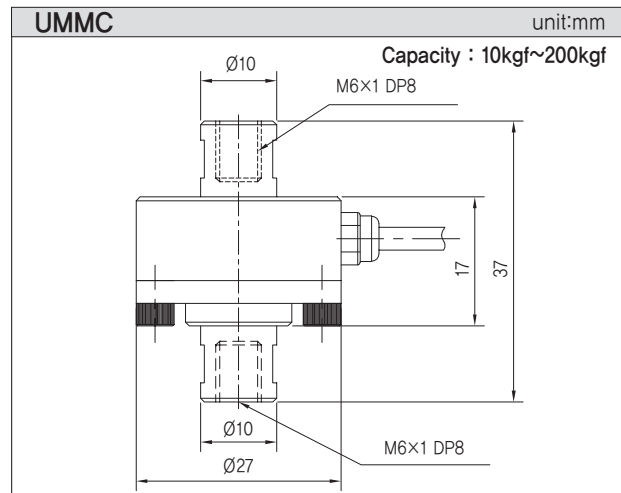
These load cells are extremely small and lightweight.

Protection Class IP66



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	1kgf, 2kgf, 5kgf, 10kgf, 20kgf, 50kgf, 100kgf, 200kgf
Rated output(R.O.)	0.7~1.2mV/V
Nonlinearity	0.1% of R.O.
Hysteresis	0.1% of R.O.
Repeatability	0.1% of R.O.
Zero balance	±2% of R.O.
Temperature effect, on rated output	0.1% of LOAD / 10°C
Temperature effect, on zero balance	0.05% of R.O. / 10°C
Temperature range, compensated	-10~60°C
Temperature range, safe	-10~80°C
Terminal resistance input	350±2Ω
Terminal resistance output	350±2Ω
Insulation resistance bridge/case	2000MΩ
Excitation recommended	5V
Safe overload	120% R.C.
Cable length	Ø3.4core shield cable, 3m



>DIMENSIONS TABLE(UMMA/UMM)

unit:mm

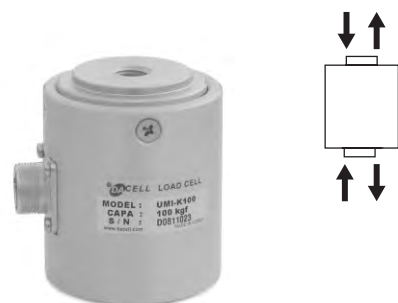
Capacity	UMMA						UMM				
	A	B	C	D	E	F	A	B	C	D	E
1kgf (9.807N)	23	20	10	M3×0.5	18	M3DP5	23	34	20	M3×0.5	14
2kgf (19.61N)	23	20	10	M3×0.5	18	M3DP5	23	34	20	M3×0.5	14
5kgf (49.03N)	23	20	10	M3×0.5	18	M3DP5	23	34	20	M3×0.5	14
10kgf (98.07N)	27	21	11	M6×1	22	M3DP5	27	37	30	M6×1	17
20kgf (196.1N)	27	21	11	M6×1	22	M3DP5	27	37	30	M6×1	17
50kgf (490.3N)	27	21	11	M6×1	22	M3DP5	27	37	30	M6×1	17
100kgf (980.7N)	27	21	11	M6×1	22	M3DP5	27	37	30	M6×1	17
200kgf (1,961kN)	27	21	11	M6×1	22	M3DP5	27	37	30	M6×1	17

★Specifications are subject to change without notice.

Miniature Compression & Tension Load Cell

>Model UMI

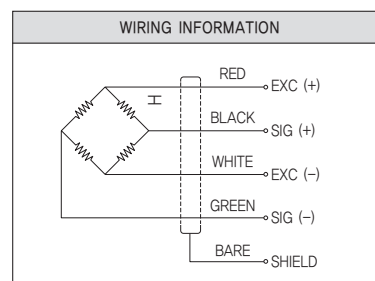
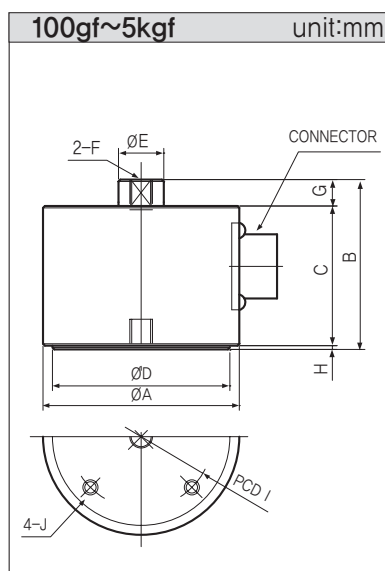
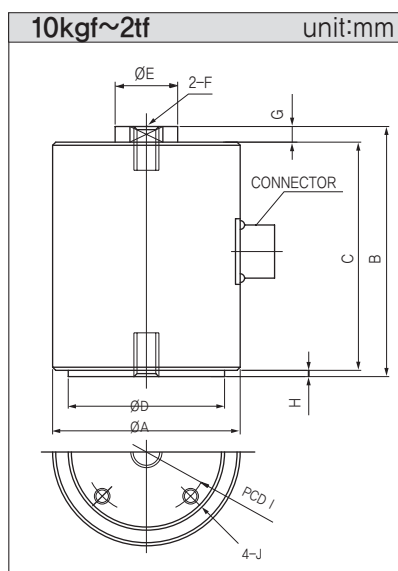
Model UMI load cells measure both tension & compression load force of 100gf to 2tf. High accuracy, high output Voltage and tight tolerance provides excellent reliability. Applications include performance testers for automotive industry.



10kgf~2tf



100gf~5kgf



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	100gf, 200gf, 500gf, 1kgf, 2kgf, 5kgf, 10kgf, 50kgf, 100kgf, 200kgf, 500kgf, 1tf, 2tf
Rated output(R.O.)	2mV/V $\pm$ 1% (100gf~5kgf=1mV/V)
Nonlinearity	0.03% of R.O.
Hysteresis	0.03% of R.O.
Repeatability	0.03% of R.O.
ZERO Balance	$\pm$ 2% of R.O.
Excitation recommended	10V (100gf~5kgf=5V)
Terminal resistance	350 Ω $\pm$ 1%
Insulation resistance bridge	2000M Ω
Temperature range, compensated	-10 ~ 50 $^{\circ}$ C
Temperature range, safe	-20 ~ 80 $^{\circ}$ C
Temperature effect, on rated output	0.1% of LOAD/10 $^{\circ}$ C
Temperature effect, on zero balance	0.05% of R.O/10 $^{\circ}$ C
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	$\varnothing$ 5 $\pm$ 0.5, 4core, 3m

>DIMENSIONS TABLE

unit:mm

Capacity	ØA	B	C	ØD	ØE	F	G	H	I	J	Weight(kg)
100gf (0.980N)	52	45	37	47	10.5	M4X0.7DP8	7	1	38	4-M4 DP6	0.5
200gf (1.961N)	52	45	37	47	10.5	M4X0.7DP8	7	1	38	4-M4 DP6	
500gf (4.903N)	52	45	37	47	10.5	M4X0.7DP8	7	1	38	4-M4 DP6	
1kgf (9.807N)	52	45	37	47	10.5	M6X1.0DP8	7	1	38	4-M4 DP6	
2kgf (19.61N)	52	45	37	47	12	M6X1.0DP8	7	1	38	4-M4 DP6	
5kgf (49.03N)	52	45	37	47	12	M6X1.0DP8	7	1	38	4-M4 DP6	1
10kgf (98.07N)	60	80	73	50	20	M12X1.75DP15	5	2	40	4-M5 DP10	
20kgf (196.1N)	60	80	73	50	20	M12X1.75DP15	5	2	40	4-M5 DP10	
50kgf (490.3N)	60	80	73	50	20	M12X1.75DP15	5	2	40	4-M5 DP10	
100kgf (980.7N)	60	80	73	50	20	M12X1.75DP15	5	2	40	4-M5 DP10	
200kgf (1.961kN)	60	80	73	50	20	M12X1.75DP15	5	2	40	4-M5 DP10	2
500kgf (4.903kN)	60	80	73	50	20	M12X1.75DP15	5	2	40	4-M5 DP10	
1tf (9.807kN)	60	80	73	50	20	M12X1.75DP15	5	2	40	4-M5 DP10	
2tf (19.61kN)	88	110	102	80	36	M18X1.5DP22	5	3	55	4-M6 DP12	3

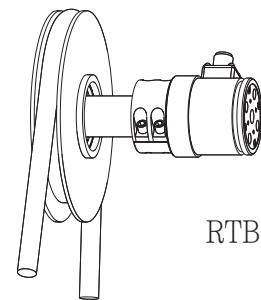
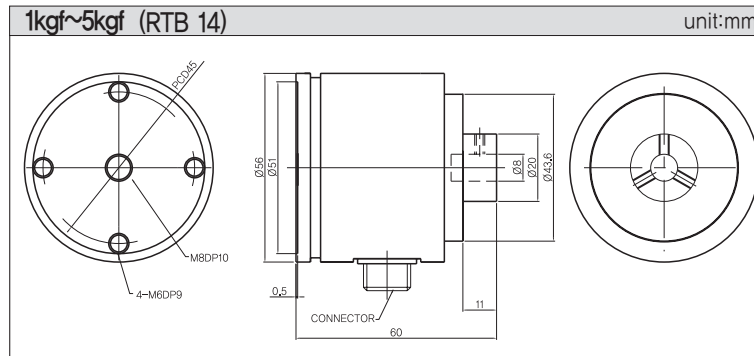
★Specifications are subject to change without notice.

Web Tension Load Cells

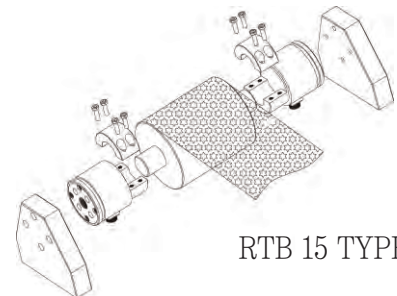
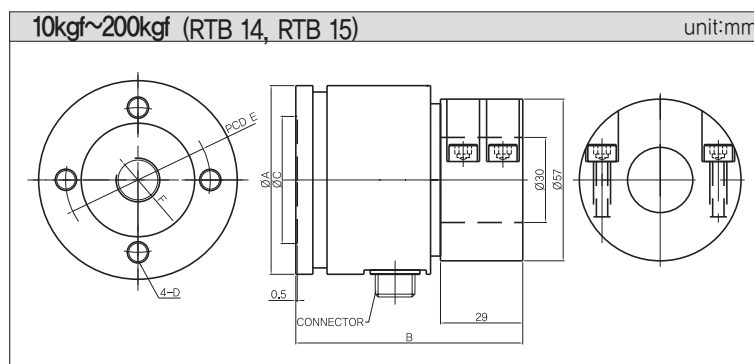
>Model RTB14, RTB15

Model RTB14, RTB15 loadcell measure the wire and roll tension.

Web tension indicator : DN300 (2 ch, Total display)



RTB 14 TYPE



RTB 15 TYPE

>DIMENSIONS TABLE (RTB14)

unit:mm

Capacity	A	B	ØC	D	E	F
10kgf (98.07N)	Ø60	80	50	M5DP15	45	M12
20kgf (196.N)	Ø60	80	50	M5DP15	45	M12
50kgf (490.3N)	Ø60	80	50	M5DP15	45	M12
100kgf (980.7N)	Ø66.5	85	60	M8DP15	51	M16
200kgf (1.961KN)	Ø66.5	85	60	M8DP15	51	M16

>DIMENSIONS TABLE (RTB15)

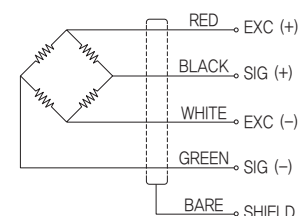
unit:mm

Capacity	A	B	ØC	D	E	F
10kgf (98.07N)	Ø60	93.5	50	M5DP15	45	M12
20kgf (196.N)	Ø60	93.5	50	M5DP15	45	M12
50kgf (490.3N)	Ø60	93.5	50	M5DP15	45	M12
100kgf (980.7N)	Ø66.5	102	60	M8DP15	51	M16
200kgf (1.961KN)	Ø66.5	102	60	M8DP15	51	M16

>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	1kgf, 5kgf, 10kgf, 20kgf, 50kgf, 100kgf, 200kgf
Rated output(R.O)	1 mV/V±1%
Nonlinearity	0.05% of R.O.
Repeatability	0.05% of R.O.
Excitation recommended	10V
Terminal resistance input	350Ω ±30Ω
Terminal resistance output	350Ω ±2Ω
Insulation resistance bridge	2000MΩ
Temperature range, compensated	-10~70°C
Temperature range, safe	-10~80°C
Safe overload	120% R.C
Cable length	Ø5±0.3mm, 4core, 3m

WIRING INFORMATION

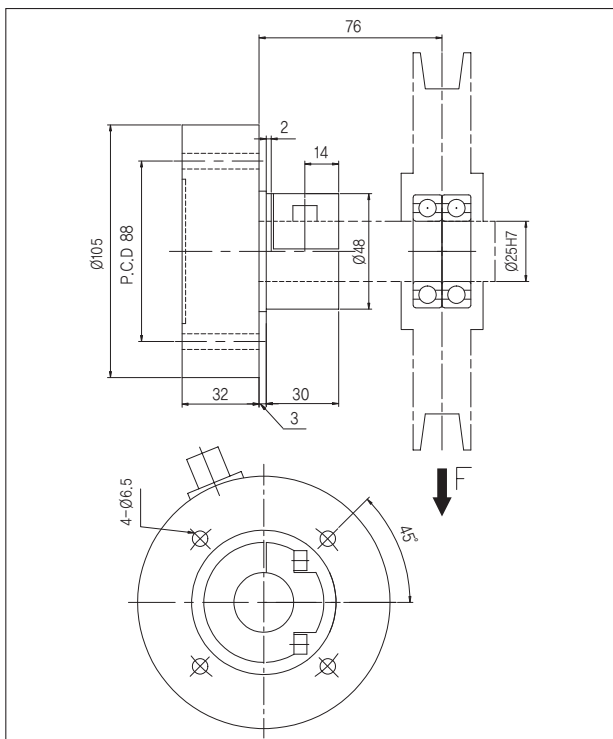
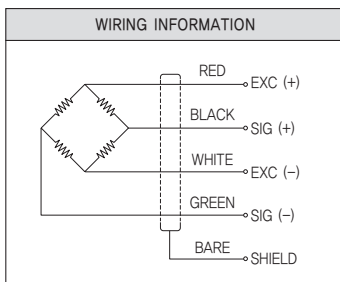


★Specifications are subject to change without notice.

Web Tension Load Cells

>Model RTB6

Wire tension load cell.



>SPECIFICATIONS

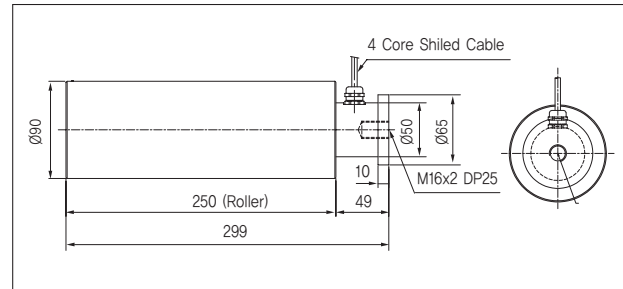
Specifications	Accuracy
Rated capacity(R.C)	50kgf
Rated output(R.O)	1.5 mV/V±1%
Nonlinearity	0.2% of R.O.
Repeatability	0.2% of R.O.
Excitation recommended	10V
Terminal resistance input	350Ω ±30Ω
Terminal resistance output	350Ω ±2Ω
Insulation resistance bridge	2000MΩ
Temperature range, compensated	-10~70°C
Temperature range, safe	-10~80°C
Safe overload	120% R.C
Cable length	Ø5±0.3mm, 4core, 3m

★Specifications are subject to change without notice.

>Model RTB21

Bearing is mounted and the road is rotated and measured.

Easy to install.



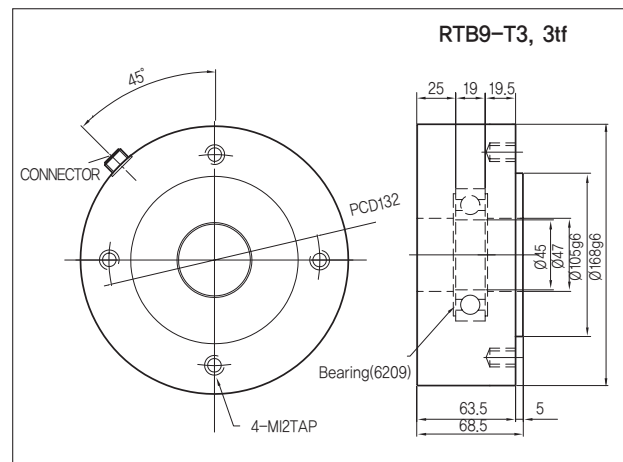
>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	20kgf
Rated output(R.O.)	2.0mV/V±1%
Nonlinearity	0.05% R.O.
Hysteresis	0.05% R.O.
Repeatability	0.05% R.O.
Zero balance	±5% R.O.

>Model RTB9

Suitabel to control Roller Tension.

Bearing is mounted and road is rotated and mea



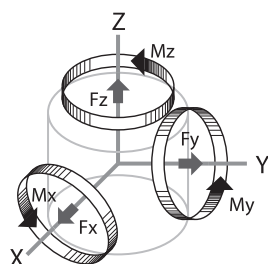
Multi Component Load Cell

>Model MC15

Various capacity of detecting up to components.

Minimize interaction between components.

- Order made – size, capacity



2-Component loadcells

(Force : N, Moment : N-m)

MODEL		Rated Capacity					
		Fx	Fy	Fz	Mx	My	Mz
MC15-2A	10	10	10	(30)	(2)	(2)	(2)
	20	20	20	(50)	(5)	(5)	(5)
	50	50	50	(100)	(10)	(10)	(10)
	100	100	100	(200)	(20)	(20)	(20)
	200	200	200	(500)	(50)	(50)	(50)
	500	500	500	(750)	(100)	(100)	(100)
MC15-2B	10	10	(30)	10	(2)	(2)	(2)
	20	20	(50)	20	(5)	(5)	(5)
	50	50	(100)	50	(10)	(10)	(10)
	100	100	(200)	100	(20)	(20)	(20)
	200	200	(500)	200	(50)	(50)	(50)
	500	500	(750)	500	(100)	(100)	(100)

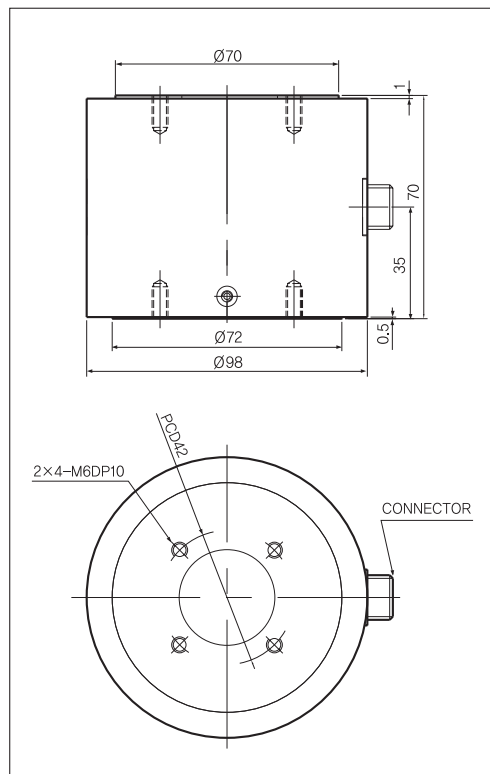
※ () Allowable force & Moment

3-Component loadcells

(Force : N, Moment : N-m)

MODEL		Rated Capacity					
		Fx	Fy	Fz	Mx	My	Mz
MC15-3A	10	10	10	10	(2)	(2)	(2)
	20	20	20	20	(5)	(5)	(5)
	50	50	50	50	(10)	(10)	(10)
	100	100	100	100	(20)	(20)	(20)
	200	200	200	200	(50)	(50)	(50)
	500	500	500	500	(100)	(100)	(100)
MC15-3B	10	10	10	(2)	(2)	(2)	1
	20	20	20	(5)	(5)	(5)	2
	50	50	50	(10)	(10)	(10)	5
	100	100	100	(20)	(20)	(20)	10
	200	200	200	(50)	(50)	(50)	20
	500	500	500	(100)	(100)	(100)	50
MC15-3C	10	10	(30)	10	(2)	1	(2)
	20	20	(50)	20	(5)	2	(5)
	50	50	(100)	50	(10)	5	(10)
	100	100	(200)	100	(20)	10	(20)
	200	200	(500)	200	(50)	20	(50)
	500	500	(750)	500	(100)	50	(100)

※ () Allowable force & Moment



- Dimensions can be modified by consumer's request.
- Dimensions are subject to change without notice.

>SPECIFICATIONS

Specifications	Accuracy
Rated output(R.O)	0.5mV/V±1%
Nonlinearity	0.5% of R.O.
Hysteresis	0.5% of R.O.
Repeatability	0.3% of R.O.
Excitation recommended	10V
Terminal resistance	700Ω ±3.5Ω
Insulation resistance bridge	2000MΩ
Temperature effect, on rated output	±0.03% R.O./°C
Temperature effect, on zero balance	±0.03%/°C
Safe overload	120% R.C.
Cable length	Ø7, 8core shield cable, 3m
Degree of interference	3% R.O.

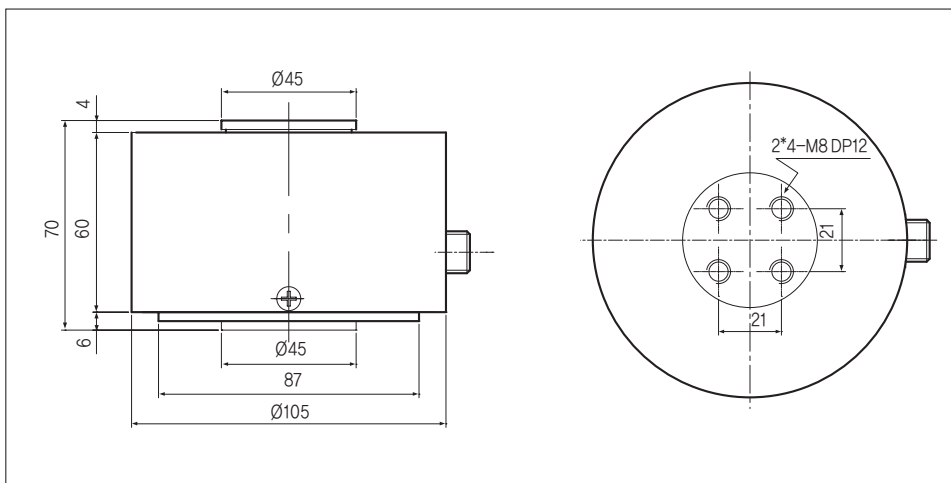
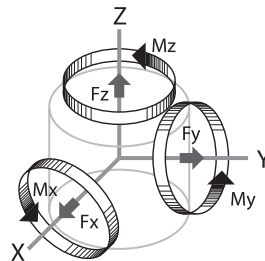
★Specifications are subject to change without notice.

Multi Component Load Cell (6 axis)

>Model MC15

This is loadcell of simple construction for torque and axial force detection. Provided with a flange for easy installation. Most suitable for use in materials testing machines.

- Order made – size, capacity



>SPECIFICATIONS

Specifications	Accuracy
Rated output(R.O.)	0.5mV/V $\pm$ 1%
Nonlinearity	0.5% R.O.
Hysteresis	0.5% R.O.
Repeatability	0.3% R.O.
Excitation recommended	10V
Terminal resistance	700 Ohm $\pm$ 3.5
Insulation resistance bridge	2000M Ω
Temperature, effect on rated output	$\pm$ 0.03% R.O./ $^{\circ}$ C
Temperature, effect on zero balance	$\pm$ 0.03%/ $^{\circ}$ C
Safe overload	120% R.C.
Cable length	Ø7mmx14Cx3m
Degree of interference	$\pm$ 3% R.O.

>DIMENSIONS TABLE

Force : N, Moment : Nm

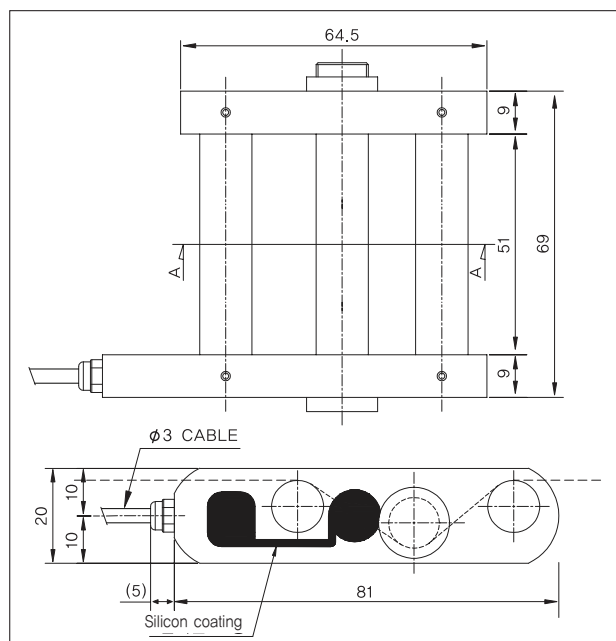
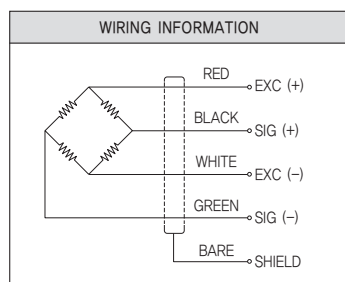
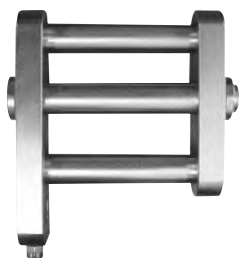
Model		Rated Capacity					
		Fx	Fy	Fz	Mx	My	Mz
MC15-6A-	20	20	20	20	2	2	2
	50	50	50	50	5	5	5
	100	100	100	100	10	10	10
	200	200	200	200	20	20	20
	500	500	500	500	50	50	50

★ Specifications are subject to change without notice.

Seat Belt Load Cell

>Model CS245

Load cell dedicated for seat belt measurement.



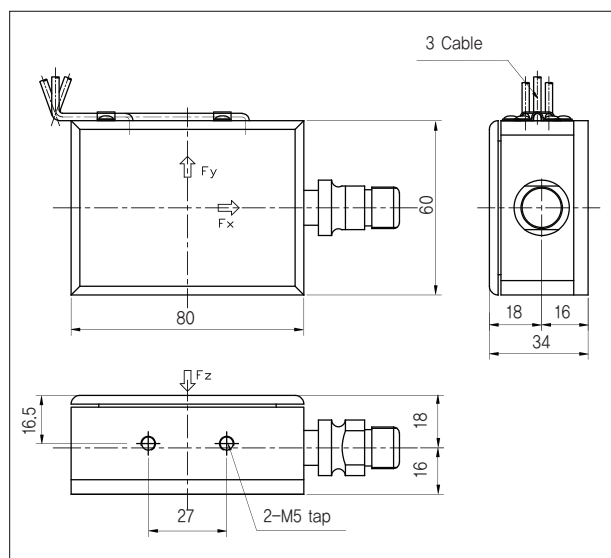
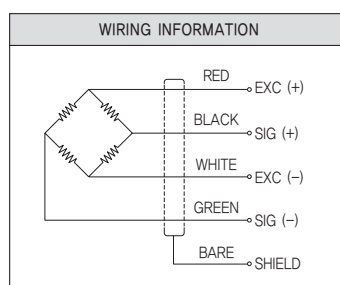
>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	2tf
Rated output(R.O.)	2.5mV/V $\pm$ 10%
Nonlinearity	2% R.O.
Hysteresis	2% R.O.
Repeatability	2% R.O.
Zero balance	$\pm$ 5% R.O.
Temperature range, compensated	0°C ~ 50°C
Temperature effect, on rated output	$\pm$ 0.3%LOAD/10°C
Temperature effect, on zero balance	$\pm$ 0.3%R.O./10°C
Terminal resistance input	350 Ω $\pm$ 10%
Terminal resistance output	350 Ω $\pm$ 5%
Insulation resistance bridge/case	2000M Ω
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	$\varnothing$ 3mm x 4C x 3m

Multi Component Load Cell

>Model MC86

3 axis load cell.
Bicycle pedal load cell



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	Fx : 1000N, Fy : 1000N, Fz : 2000N
Rated output(R.O)	0.6 ~ 1mV/V
Nonlinearity	0.5% of R.O.
Hysteresis	0.5% of R.O.
Repeatability	0.5% of R.O.
Zero balance	$\pm$ 1% of R.O.
Terminal resistance input	350 $\pm$ 3.5 Ω
Terminal resistance output	350 $\pm$ 5 Ω
Temperature range, compensated	-10~40°C
Temperature range, safe	-20~70°C
Mutual Interference	$\pm$ 4% of R.O.
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	120% R.C.
Cable length	$\varnothing$ 3mm 4core cable 3m

★Specifications are subject to change without notice.

Gear Shifting Lever Load Cell

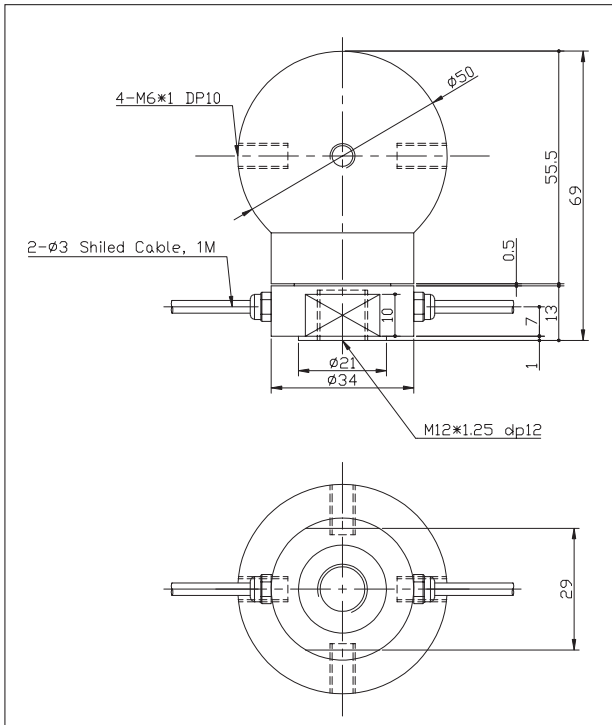
>Model CS201-500N

This can measure X and Y force of Gear shifting lever.



>DIMENSIONS

unit:mm



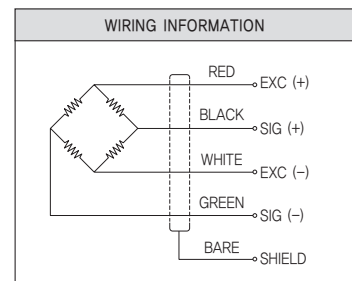
>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	500N
Rated output(R.O)	1.5mV/V±1%
Nonlinearity	0.1% R.O.
Hysteresis	0.1% R.O.
Repeatability	0.05% R.O.
Temperature range, compensated	-10°C ~ 40°C
Temperature range, safe	-20°C ~ 60°C
Temperature effect, on rated output	±0.02% of LOAD/10°C
Temperature effect, on zero balance	±0.02% of R.O./10°C
Terminal resistance input	350Ω ±30
Terminal resistance output	350Ω ±2
Insulation resistance bridge	2000MΩ
Excitation recommended	10V
Cable length	Ø3mm, 4Core, 1m

★Specifications are subject to change without notice.

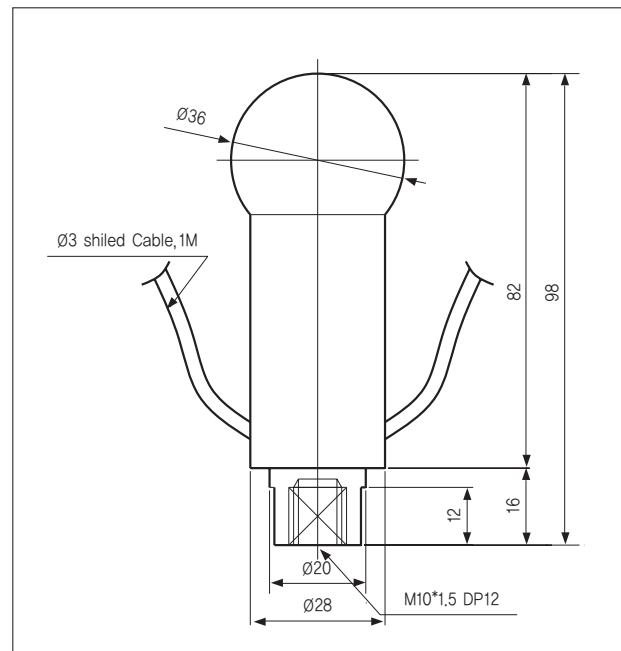
>Model CS142

This can measure X and Y force of Gear shifting lever.



>DIMENSIONS

unit:mm



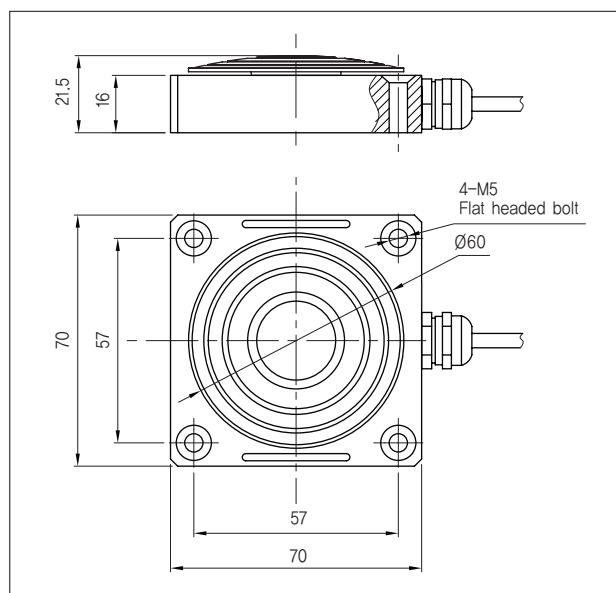
>SPECIFICATIONS

Specifications	Accuracy
Model	CS142-500N
Rated capacity (R.C.)	500N
Rated output (R.O.)	1mV/V±1%
Nonlinearity	1% R.O.
Hysteresis	1% R.O.
Resistance, input / output	350Ω ±1%
Safe overload	120% R.C.

Pedal Effort Load Cell

>Model CS285

Made of aluminum alloy material.
Used to measure the brake pedal force in the car development industry.
Protection Class IP65

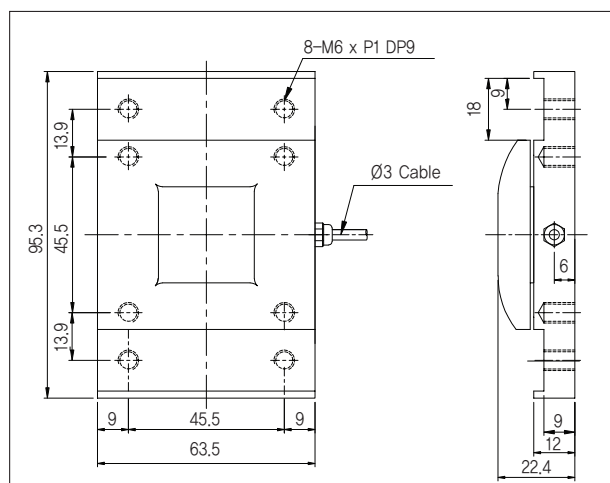
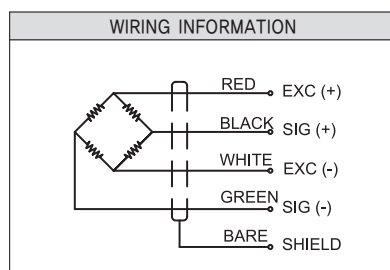


>SPECIFICATIONS

Specifications	Accuracy
Rated output(R.O)	1.5±10% mV/V
Zero balance	±2% F.S.
Nonlinearity	0.25% F.S.
Hysteresis	0.1% F.S.
Repeatability	0.1% F.S.
Creep [30min]	0.2% F.S.
Temperature effect, on rated output	0.05% F.S. / 10°C
Temperature effect, on zero	0.03% F.S. / 10°C
Terminal resistance input	700±30Ω
Terminal resistance output	700±10Ω
Insulation	2000MΩ
Excitation recommended	10V
Excitation maximum	15V
Temperature range, compensated	-10~60°C
Temperature range, operation	-20~80°C
Safe overload	120% F.S.
Ultimate overload	200% F.S.
Cable length	Ø5, 4core cable 3m

>Model CS187

Pedal effort load cell
Small and light weight



>SPECIFICATIONS

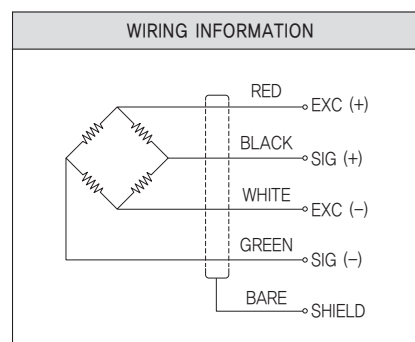
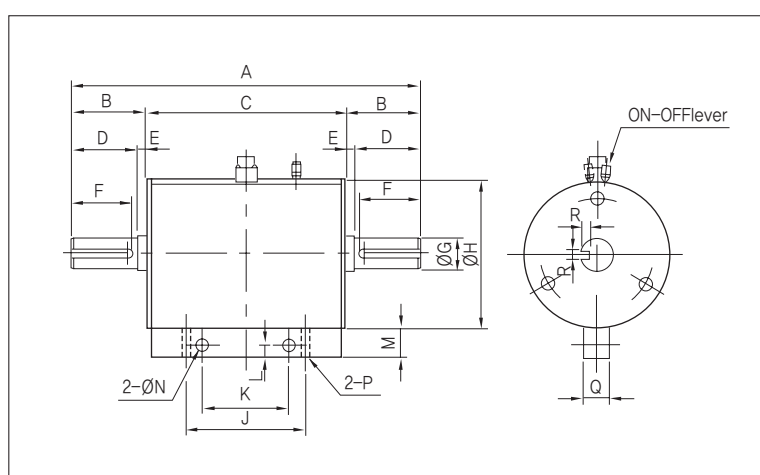
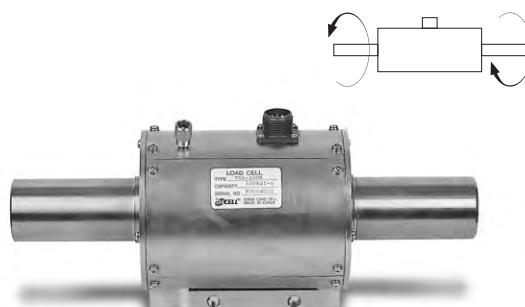
Specifications	Accuracy
Rated capacity(R.C)	120kgf
Rated output(R.O)	1.2mV/V±1%
Nonlinearity	0.15% R.O.
Hysteresis	0.15% R.O.
Repeatability	0.15% R.O.
Zero balance	±1% R.O.
Temperature range, compensated	-10°C ~ 50°C
Temperature effect, on rated output	±0.02%LOAD/10°C
Temperature effect, on zero	±0.02%R.O./10°C
Terminal resistance input	700±10Ω
Terminal resistance output	700±5Ω
Insulation resistance bridge to ground	2000MΩ
Electrical connection	Ø3mm x 4C x 40cm
Excitation recommended	10V
Safe overload	150% R.C.

★Specifications are subject to change without notice.

Shaft Type Torque Sensors

>Model TRA

Model TRA load cell measure the torque of continuous rotating object. Platinum coated connector provides long term signal stability and high accuracy. These models are most appropriate for industrial measurement. Applications include the performance testers for automotive components such as clutches, transmissions, motors and pumps.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	1~300kgf-m (9.807N-m~2,942kNm)
Rated output(R.O.)	1.5mV/V $\pm$ 1% (1~5kgf-m:1mV/V)
Nonlinearity	0.3%R.O.
Hysteresis	0.2%R.O.
Repeatability	0.3%R.O.
Excitation recommended	10V
Terminal resistance	350 Ω $\pm$ 1%
Insulation resistance bridge	200M Ω
Temperature effect, on rated output	0.2% Load/10 $^{\circ}$ C
Temperature effect, on zero balance	0.3% R.O/10 $^{\circ}$ C
Safe overload	120% R.C.
Cable length	$\varnothing$ 7, 4core cable 3m

>DIMENSIONS TABLE

unit:mm

Model	Capacity	A	B	C	D	E	F	$\varnothing$ G	$\varnothing$ H	J	K	L	M	N	P	Q	R	R.P.M	Weight(kg)
TRA-1K	1kgf-m (9.807N-m)	203	43	117	38	5	35	18	85	90	50	7	17	7	M6	15	5x5	5000	3
TRA-2K	2kgf-m (19.61N-m)	203	43	117	38	5	35	18	85	90	50	7	17	7	M6	15	5x5	5000	
TRA-5K	5kgf-m (49.03N-m)	203	43	117	38	5	35	18	85	90	50	7	17	7	M6	15	5x5	5000	
TRA-10K	10kgf-m (98.07N-m)	240	55	130	50	5	45	32	100	90	50	7	17	7	M6	15	10x8	5000	7
TRA-20K	20kgf-m (196.1N-m)	240	55	130	50	5	45	32	100	90	50	7	17	7	M6	15	10x8	4000	
TRA-50K	50kgf-m (490.3N-m)	340	95	150	90	5	85	47	118	100	60	8	20	9	M8	17	12x8	4000	12
TRA-100K	100kgf-m (980.7N-m)	340	95	150	90	5	85	47	118	100	60	8	20	9	M8	17	12x8	4000	
TRA-200K	200kgf-m (1.961kN-m)	360	103	154	100	3	95	63	135	100	60	8	20	9	M8	17	18x11	4000	23
TRA-300K	300kgf-m (2.942kN-m)	360	103	154	100	3	95	63	135	100	60	8	20	9	M8	17	18x11	3000	

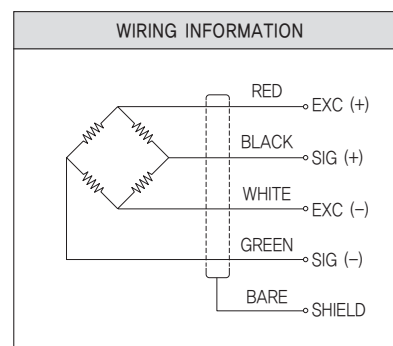
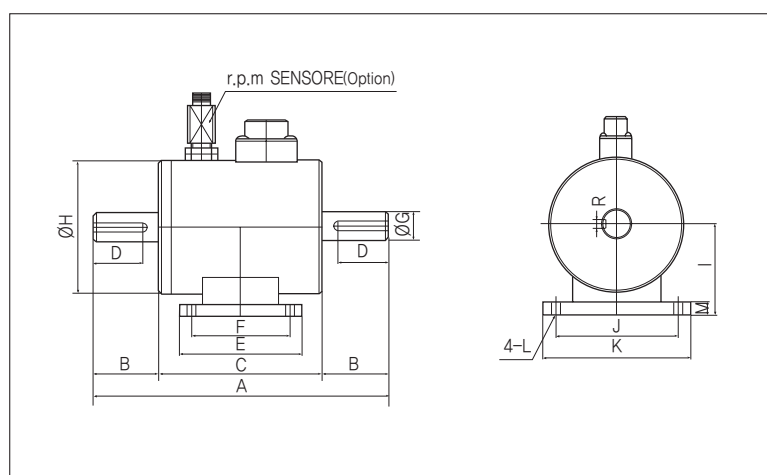
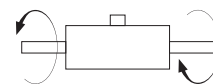
★Specifications are subject to change without notice.

Shaft Type Torque Sensors

>Model TRB

Model TRB load cell measure the torque of continuous rotating object. Platinum coated connector provides long term signal stability and high accuracy. These models are most appropriate for industrial measurement. Applications include the performance testers for automotive components such as clutches, transmissions, motors and pumps.

※Option : r.p.m. sensor



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	1~2000kgf-m (9.807N-m~19.61kN-m)
Rated output(R.O.)	1.5mV/V $\pm$ 1%(1~5kgf-m:1mV/V)
Nonlinearity	0.3%R.O.
Hysteresis	0.2%R.O.
Repeatability	0.3%R.O.
Excitation recommended	10V
Terminal resistance	350 Ω $\pm$ 5%
Insulation resistance bridge	200M Ω
Temperature effect, on rated output	0.2% Load/10 $^{\circ}$ C
Temperature effect, on zero balance	0.3% R.O/10 $^{\circ}$ C
Safe overload	120% R.C.
Cable length	$\varnothing$ 7, 4core cable 3m

>DIMENSIONS TABLE

unit:mm

Model	Capacity	A	B	C	D	E	F	$\varnothing$ G	$\varnothing$ H	I	J	K	$\varnothing$ L	M	R	R.P.M	Weight(kg)
TRB-1K	1kgf-m (9.807N-m)	191	43	105	38	68	50	18	72	41	72	86	7	8.5	5 $\times$ 5	5000	3
TRB-2K	2kgf-m (19.61N-m)	191	43	105	38	68	50	18	72	41	72	86	7	8.5	5 $\times$ 5	5000	
TRB-5K	5kgf-m (49.03N-m)	191	43	105	38	68	50	18	72	41	72	86	7	8.5	5 $\times$ 5	5000	
TRB-10K	10kgf-m (98.07N-m)	260	55	150	40	100	84	32	100	63	98	115	7	12	10 $\times$ 8	5000	7
TRB-20K	20kgf-m (196.1N-m)	260	55	150	40	100	84	32	100	63	98	115	7	12	10 $\times$ 8	4000	
TRB-50K	50kgf-m (490.3N-m)	310	80	150	70	120	98	47	118	75	124	148	9	15	12 $\times$ 8	4000	12
TRB-100K	100kgf-m (980.7N-m)	310	80	150	75	120	98	47	118	75	124	148	9	15	12 $\times$ 8	4000	
TRB-200K	200kgf-m (1.961kN-m)	375	100	175	85	120	98	63	135	90	150	180	10.5	20	18 $\times$ 11	4000	25
TRB-300K	300kgf-m (2.942kN-m)	375	100	175	85	120	98	63	135	90	150	180	10.5	20	18 $\times$ 11	3000	
TRB-500k	500kgf-m (4.903kN-m)	500	140	220	115	148	118	90	170	114	162	192	11	26	25 $\times$ 14	3000	55
TRB-1000k	1000kgf-m (9.807kN-m)	500	140	220	115	148	118	90	170	114	162	192	11	26	25 $\times$ 14	3000	
TRB-2000k	2000kgf-m (19.61kN-m)	680	208	264	160	210	172	115	210	138	190	230	13	26	32 $\times$ 18	3000	100

★Specifications are subject to change without notice.

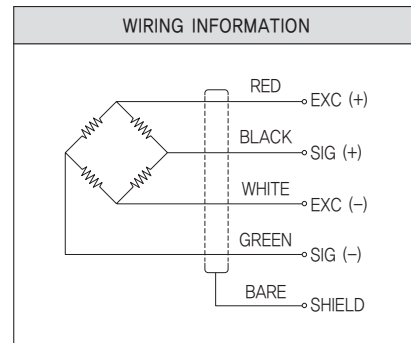
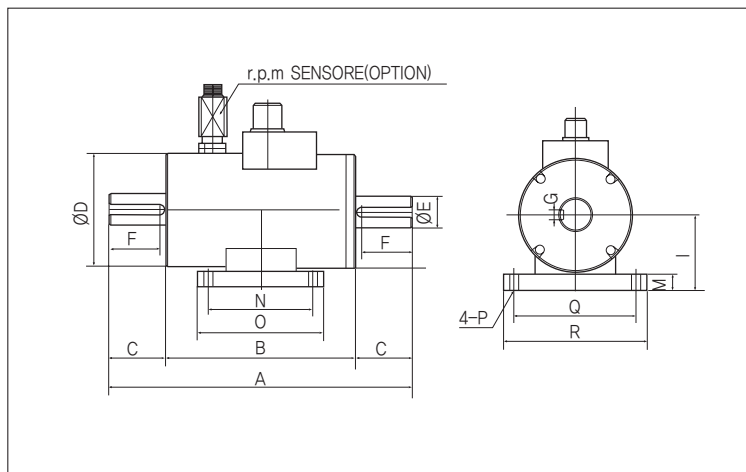
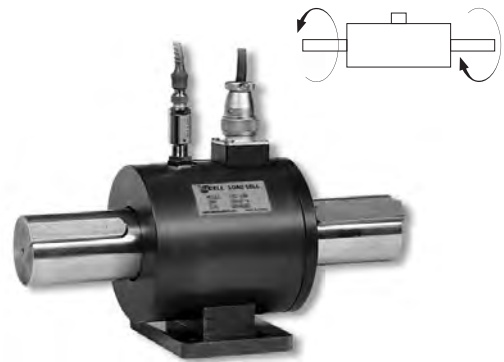
Shaft Type Brushless Torque Sensors

>Model TRC

Model TRC brushless type torque transducers are designed for high RPM application. The brushless type allows a maintenance free and a maximum durability.

This model can be used for various tests including aircraft engine test which requires high RPM and high accuracy.

※Option : r.p.m. sensor



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	1, 2, 5, 10, 20, 50, 100, 200, 500, 1000, 2000(kgf-m), 9.807, 19.61, 49.03, 98.07, 196.1, 490.3, 980.7(N-m), 1.961, 4.903, 9.807, 19.61(kN-m)
Rated output(R.O.)	1.3mV/V $\pm$ 1%
Nonlinearity	$\pm$ 0.5%R.O.
Hysteresis	$\pm$ 0.5%R.O.
Repeatability	$\pm$ 0.5%R.O.
Excitation recommended	2 VAC
Temperature operating	0 $^{\circ}$ C~60 $^{\circ}$ C
Temperature effect, on rated output	0.2% Load/10 $^{\circ}$ C
Temperature effect, on zero balance	0.3% R.O/10 $^{\circ}$ C
Safe overload	120% R.C.
Cable length	Cable $\varnothing$ 10, 4 core shield 5m

>DIMENSIONS TABLE

unit:mm

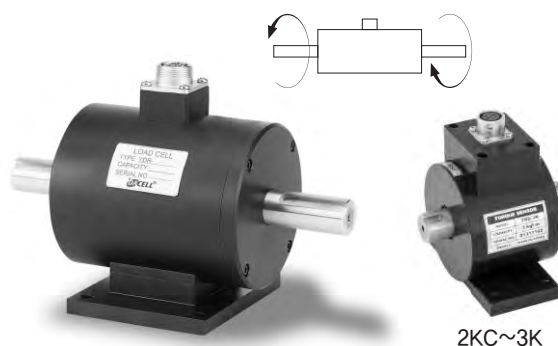
Model	Capacity	A	B	C	$\varnothing$ D	$\varnothing$ E	F	G	I	M	N	O	$\varnothing$ P	Q	R	R.P.M	Weight(kg)
TRC-1K	1kgf-m (9.807N-m)	236	146	45	84	17	40	5×5	55	12	83	101	7	91	109	10,000	3
TRC-2K	2kgf-m (19.61N-m)	236	146	45	84	17	40	5×5	55	12	83	101	7	91	109	10,000	
TRC-5K	5kgf-m (49.03N-m)	236	146	45	84	17	40	5×5	55	12	83	101	7	91	109	10,000	
TRC-10K	10kgf-m (98.07N-m)	240	150	45	90	25	40	8×7	60	12	83	101	7	97	115	10,000	8
TRC-20K	20kgf-m (196.1N-m)	240	150	45	90	25	40	8×7	60	12	83	101	7	97	115	10,000	
TRC-50K	50kgf-m (490.3N-m)	302	162	70	114	45	60	10×8	75	15	97	121	9	123	147	8,000	15
TRC-100K	100kgf-m (980.7N-m)	302	162	70	114	45	60	10×8	75	15	97	121	9	123	147	8,000	
TRC-200K	200kgf-m (1.961kN-m)	336	176	80	148	70	70	18×11	95	20	97	121	9	157	181	5,000	25
TRC-500K	500kgf-m (4.903kN-m)	336	176	80	148	70	70	18×11	95	20	97	121	9	157	181	5,000	
TRC-1000K	1000kgf-m (9.807kN-m)	445	185	130	173	90	110	25×14	110	20	108	134	11	184	210	3,800	55
TRC-2000K	2000kgf-m (19.61kN-m)	513	193	160	203	110	140	28×16	128	23	121	159	13	216	254	3,000	110

★Specifications are subject to change without notice.

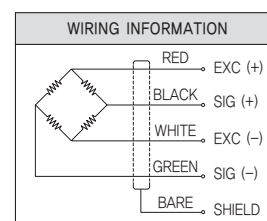
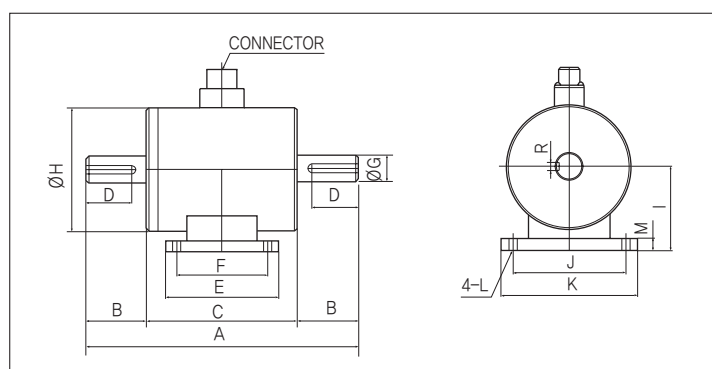
Shaft Type Torque Sensors

>Model TRD

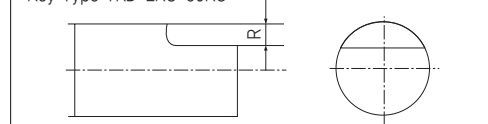
Model TRD loadcell measure the torque of continuous rotating object, Platinum coated connector provides long term signal stability and high accuracy. These models are most appropriate for industrial measurement. Applications include the performance testers for automotive components such as clutches, transmissions, motors and pumps.



2KC~3K



Key Type TRD-2KC-50KC



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	2~50kgf-cm, 1~2000kgf-m 0.196, 0.490, 0.981, 1.961, 2.942, 4.903, 9.807, 19.61, 29.42, 49.03, 98.07, 196.1, 490.3, 980.7 1.961, 4.903, 9.807, 19.61(kN-m)
Rated output(R.O.)	1.5mV/V $\pm$ 1%(2kgf-cm~5kgf-m:1mV/V)
Nonlinearity	0.3%R.O.
Hysteresis	0.3%R.O.
Repeatability	0.2%R.O.
Excitation recommended	10V
Terminal resistance	350 Ω $\pm$ 5%
Insulation resistance bridge	200M Ω
Temperature effect, on rated output	0.2% Load/10 $^{\circ}$ C
Temperature effect, on zero balance	0.3% R.O./10 $^{\circ}$ C
Safe overload	120% R.C.
Cable length	$\varnothing$ 7, 4core cable 3m

>DIMENSIONS TABLE

unit:mm

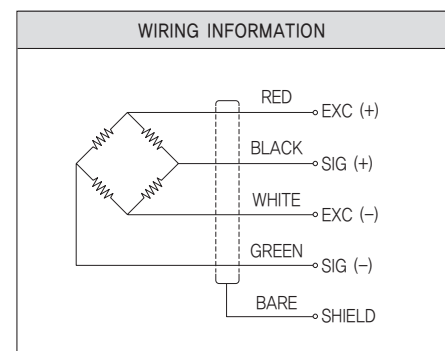
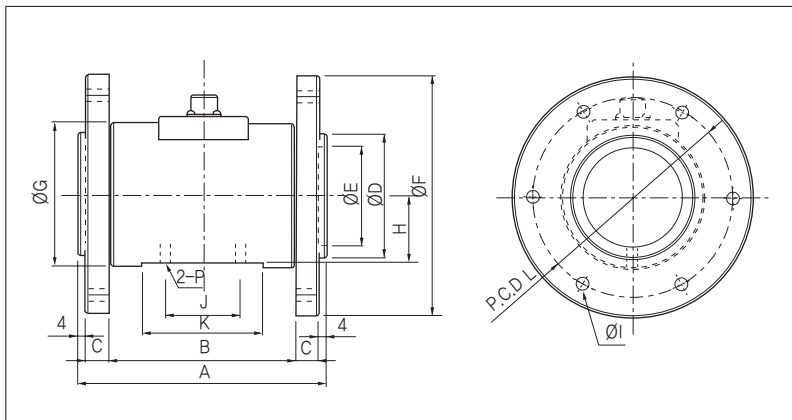
Model	Capacity	A	B	C	D	E	F	$\varnothing$ G	$\varnothing$ H	I	J	K	$\varnothing$ L	M	R	R.P.M
TRD-2KC	2kgf-cm (0.196N-m)	84	16	52	12	42	32	8	60	34	65	76	5.5	8	1	3000
TRD-5KC	5kgf-cm (0.490N-m)	84	16	52	12	42	32	8	60	34	65	76	5.5	8	1	3000
TRD-10KC	10kgf-cm (0.981N-m)	84	16	52	12	42	32	8	60	34	65	76	5.5	8	1	3000
TRD-20KC	20kgf-cm (1.961N-m)	84	16	52	12	42	32	8	60	34	65	76	5.5	8	1	3000
TRD-30KC	30kgf-cm (2.942N-m)	84	16	52	12	42	32	12	60	34	65	76	5.5	8	1.5	3000
TRD-50KC	50kgf-cm (4.903N-m)	84	16	52	12	42	32	12	60	34	65	76	5.5	8	1.5	3000
TRD-1K	1kgf-m (9.807N-m)	90	16	58	12	46	32	18	72	41	80	94	6.5	8.5	5 $\times$ 5	5000
TRD-2K	2kgf-m (19.61N-m)	90	16	58	12	46	32	18	72	41	80	94	6.5	8.5	5 $\times$ 5	5000
TRD-3K	3kgf-m (29.42N-m)	90	16	58	12	46	32	18	72	41	80	94	6.5	8.5	5 $\times$ 5	5000
TRD-5K	5kgf-m (49.03N-m)	180	42.5	95	35	64	50	18	80	46	80	100	7	12	5 $\times$ 5	5000
TRD-10K	10kgf-m (98.07N-m)	180	42.5	95	35	64	50	18	80	46	80	100	7	12	5 $\times$ 5	5000
TRD-20K	20kgf-m (196.1N-m)	220	55	110	45	100	84	32	100	63	98	115	7	12	10 $\times$ 8	4000
TRD-50K	50kgf-m (490.3N-m)	220	55	110	45	100	84	32	100	63	98	115	7	12	10 $\times$ 8	4000
TRD-100K	100kgf-m (980N-m)	280	80	120	69	120	98	47	100	66	124	148	8.5	15	12 $\times$ 8	4000
TRD-200K	200kgf-m (1.961kN-m)	280	80	120	69	120	98	47	100	66	124	148	8.5	15	12 $\times$ 8	4000
TRD-500K	500kgf-m (4.903kN-m)	390	130	130	100	126	100	90	172	101	154	180	11	20	25 $\times$ 14	2000
TRD-1000K	1000kgf-m (9.807kN-m)	390	130	130	100	126	100	90	172	101	154	180	11	20	25 $\times$ 14	2000
TRD-2000K	2000kgf-m (19.6kN-m)	440	150	140	120	148	110	115	210	130	190	228	13	23	32 $\times$ 18	2000

★Specifications are subject to change without notice.

Flange Type Rotary Torque Sensors

>Model TRE

Model TRE slipring rotating torque transducers have flange drives at both ends. This model is designed for the application with minimal space and high capacity requirement.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity	20kgf~500kgf-m (196.1N-m~4,903kN-m)
Rated output	1.5mV/V $\pm$ 1%
Nonlinearity	0.3%
Hysteresis	0.3%
Repeatability	0.3%
Terminal resistance, input	350 Ω $\pm$ 5 Ω
Terminal resistance, output	350 Ω $\pm$ 3 Ω
Insulation resistance	300M Ω
Temperature range compensated	-10 $^{\circ}$ C~60 $^{\circ}$ C
Temperature range safe	-20 $^{\circ}$ C~70 $^{\circ}$ C
Temperature effect, on rated output	0.2% Load/10 $^{\circ}$ C
Temperature effect, on zero balance	0.3% R.O/10 $^{\circ}$ C
Excitation recommended	10V DC
Safe overload	150% R.C
Cable	Ø7 Shield 3m

>DIMENSIONS TABLE

unit:mm

Model	Capacity	A	B	C	ØD	ØE	ØF	ØG	H	I	J	K	L	P	R.P.M
TRE-20K	20kgf-m (196.1N-m)	130	98	12	65	52	127	81	38	6-Ø6.5	50	64	105	M6 DP.8	5,000
TRE-50K	50kgf-m (490.3N-m)	134	102	12	76	62	136	88	41.5	6-Ø8.5	40	64	114	M6 DP.8	4,000
TRE-100K	100kgf-m (980.7N-m)	134	102	12	86	68	156	100	48	8-Ø10.5	48	64	130	M8 DP.8	4,000
TRE-200K	200kgf-m (196.1kN-m)	148	108	16	102	75	172	116	56	8-Ø10.5	50	68	146	M8 DP.8	3,000
TRE-300K	300kgf-m (2,942kN-m)	148	108	16	102	75	172	116	56	8-Ø10.5	50	68	146	M8 DP.8	3,000
TRE-500K	500kgf-m (4,903kN-m)	150	102	16	107	81	184	128	62	8-Ø10.5	56	74	158	M8 DP.8	3,000

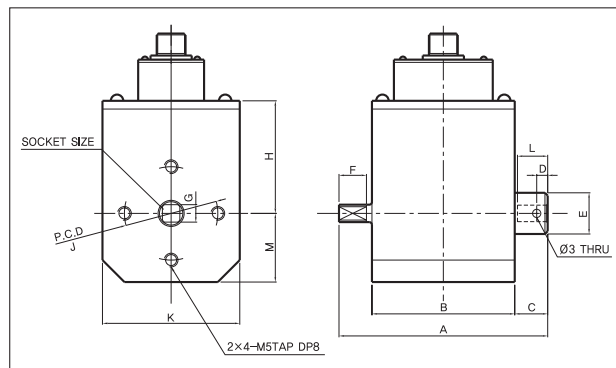
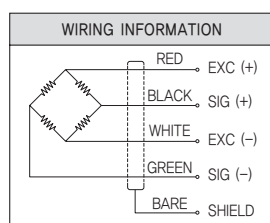
★Specifications are subject to change without notice.

Socket Wrench Rotary Torque Sensors

Spline Torque Sensors

>Model TRS

TRS socket wrench torque sensors are used for fast, accurate measurement of bolt or nut wrenching torque. This model operates in both directions so tightening and break-away torques can be measured. It can also be used to check the calibration of mechanical torque wrenches.

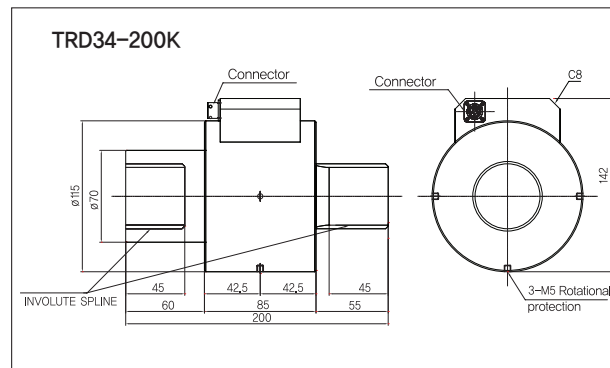


>SPECIFICATIONS

Specifications	Accuracy
Rated capacity (R.C.)	2kgf-cm~3000kgf-cm (19.61N-cm~29.42kN-cm)
Rated output (R.O.)	1.3mV/V±1%
Nonlinearity	0.3%R.O
Hysteresis	0.3%R.O
Repeatability	0.3%R.O
Terminal resistance, input	350±3.5Ω
Terminal resistance, output	350±3.5Ω
Insulation resistance	300MΩ
Temperature range, compensated	-10℃~60℃
Temperature range, safe	-20℃~70℃
Temperature effect, on zero balance	0.05% R.O/10℃
Temperature effect, on rated output	0.1% Load/10℃
Excitation recommended	10V DC
Safe overload	150% R.C.
Cable length	Ø4 Shield 3m

>Model TRD34

Custom torque sensor products.
Torque sensor mounted on involute spline shaft.
Involute splines can be changed on request



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity (R.C.)	200kgf-m (1.961kN-m)
Rated output (R.O.)	1.5mV/V±1%
Nonlinearity	0.3%R.O
Hysteresis	0.3%R.O
Repeatability	0.2%R.O
Terminal resistance, input	350±50Ω
Terminal resistance, output	350±5Ω
Insulation resistance	200MΩ
Temperature range, compensated	-10℃~60℃
Temperature range, safe	-20℃~70℃
Temperature effect, on zero balance	0.05% R.O/10℃
Temperature effect, on rated output	0.1% Load/10℃
Excitation recommended	10V DC
Safe overload	120% R.C.
Cable length	Ø7, 4core, 3m

>DIMENSIONS TABLE (TRS)

unit:mm

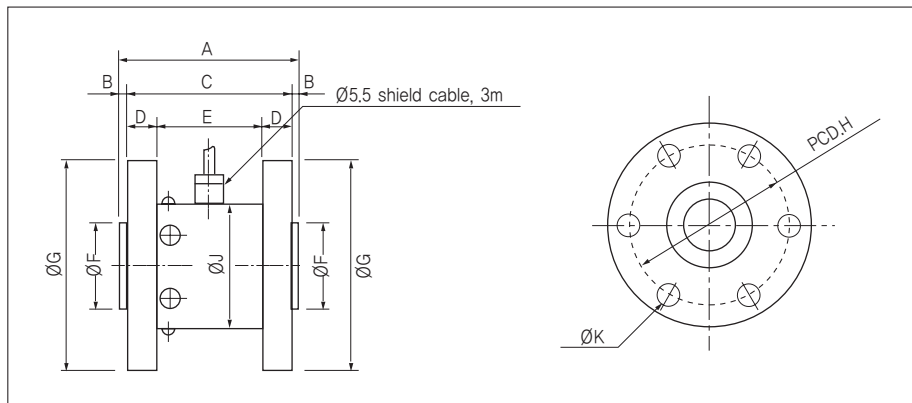
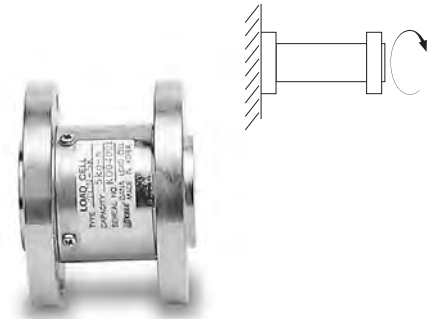
	Socket Size	A	B	C	D	ØE	F	G	M	K	L	J	H
2, 5, 10kgf-cm (19.61N-cm, 49.03N-cm, 98.07N-cm)	1/4"	76	52	12	4	15	10	6.35	25	50	11	34	41
20, 50kgf-cm (196.1N-cm, 490.3N-cm)	3/8"	82	56	12	4	15	12.5	9.53	25	50	13	34	41
100, 300kgf-cm (980.7N-cm, 2.942kN-cm)	1/2"	96	58.5	19.5	7	20	16	12.7	31	62	17	44	42
500, 1000kgf-cm (4.903kN-cm, 9.807kN-cm)	3/4"	106	58	24	10	30	22	19.1	34	68	22	52	53
2000, 3000kgf-cm (19.61kN-cm, 29.42kN-cm)	1"	123	58	33	14	40	29.2	25.4	39	78	28	62	54

★Specifications are subject to change without notice.

Non-Rotry Torque Sensors

>Model TCN

A static torque sensor for measurement of torque of stationary objects or within a certain angle rotation.
Suitable for torque measurement of various automobile parts, pneumatic and electric screwdriver etc.



WIRING INFORMATION	
RED	EXC (+)
BLACK	SIG (+)
WHITE	EXC (-)
GREEN	SIG (-)
BARE	SHIELD

>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	2~50kgf-cm (0.196N-m~4.903N-m), 1~2000kgf-m (9.807N-m~19.61kN-m)
Rated output(R.O.)	1mV/V±1%
Nonlinearity	0.3% (0.1kgf-m under 0.5% R.O.)
Hysteresis	0.3% (0.1kgf-m under 0.5% R.O.)
Repeatability	0.02% of R.O.
Terminal resistance, input	350Ω ±1%
Terminal resistance, output	350Ω ±1%
Insulation resistance	2000MΩ
Temperature effect, on zero balance	±0.1% R.O./10℃
Temperature effect, on rated output	±0.1% Load/10℃
Excitation recommended	10V DC
Safe overload	120% R.C.
Cable length	Ø5.5 4core cable, 3m

>DIMENSIONS TABLE

unit:mm

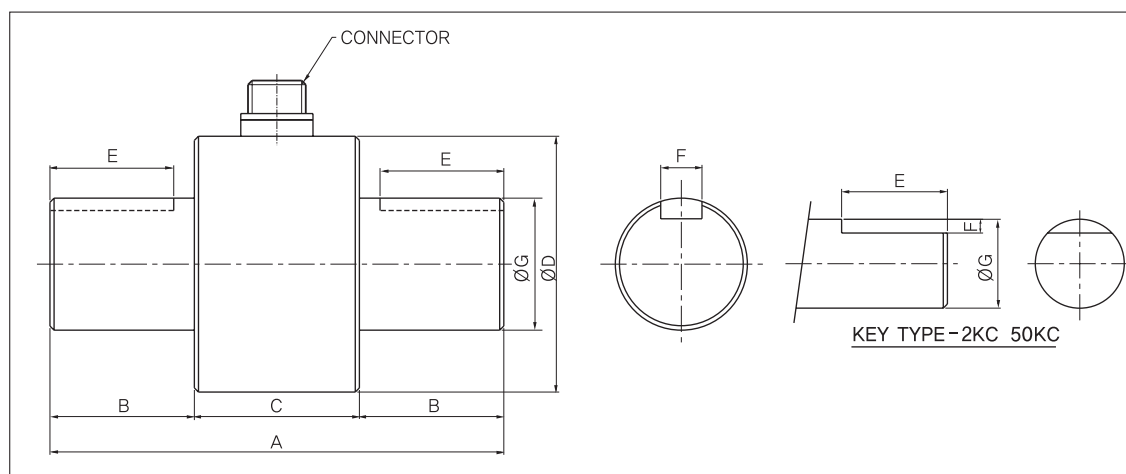
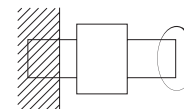
Model	Capacity	A	B	C	D	E	ØF	ØG	H	J	ØK
TCN-2KC	2kgf-cm (0.196N-m)	61	3	55	5	45	20	58	46	33	2×4-Ø4.5
TCN-3KC	3kgf-cm (0.294N-m)	61	3	55	5	45	20	58	46	33	2×4-Ø4.5
TCN-5KC	5kgf-cm (0.490N-m)	61	3	55	5	45	20	58	46	33	2×4-Ø4.5
TCN-10KC	10kgf-cm (0.981N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-20KC	20kgf-cm (1.961N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-30KC	30kgf-cm (2.942N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-50KC	50kgf-cm (4.903N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-1K	1kgf-m (9.807N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-2K	2kgf-m (19.61N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-3K	3kgf-m (29.42N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-5K	5kgf-m (49.03N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-10K	10kgf-m (98.07N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-20K	20kgf-m (196.1N-m)	86	3	80	15	50	40	98	78	58	2×6-Ø10.5
TCN-50K	50kgf-m (490.3N-m)	130	3	124	20	84	60	118	95	68	2×6-Ø10.5
TCN-100K	100kgf-m (980N-m)	136	3	130	20	90	60	146	115	75	2×6-Ø13
TCN-200K	200kgf-m (1.961kN-m)	146	3	140	25	90	60	166	130	99	2×8-Ø17
TCN-500K	500kgf-m (4.903kN-m)	176	3	170	35	100	60	197	155	98	2×12-Ø17
TCN-1000K	1000kgf-m (9.807kN-m)	180	3	174	37	100	90	248	180	110	2×12-Ø21
TCN-2000K	2000kgf-m (19.61kN-m)	180	3	174	37	100	90	248	180	128	2×12-Ø21

★Specifications are subject to change without notice.

Non-Rotary Torque Sensors

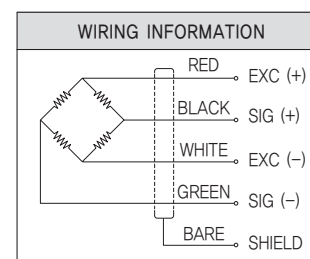
>Model TCN15

A static torque sensor for measurement of torque of stationary objects or within a certain angle rotation. Suitable for torque measurement of various automobile parts, pneumatic and electric screwdriver etc.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	2~50kgf-cm(0.196N-m~4.903N-m), 1~100kgf-m(9.807N-m~980N-m)
Rated output(R.O.)	1mV/V±1%
Nonlinearity	0.3% of R.O.
Hysteresis	0.2% of R.O.
Repeatability	0.1% of R.O.
Excitation recommended	10V DC
Temperature range, compensated	0.3% R.O./10°C
Temperature range, safe	0.2% LOAD/10°C
Safe overload	120% R.C.



>DIMENSIONS TABLE

unit:mm

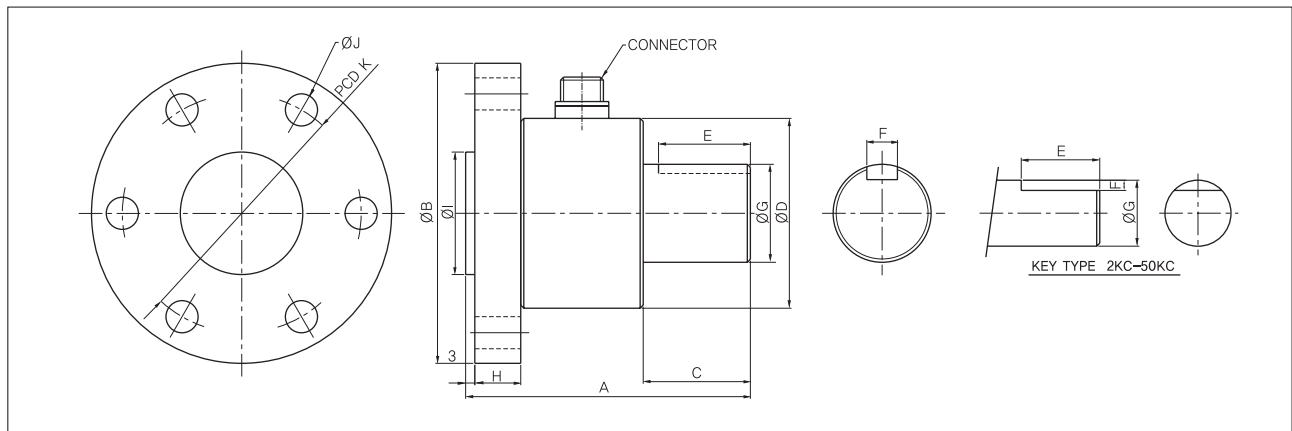
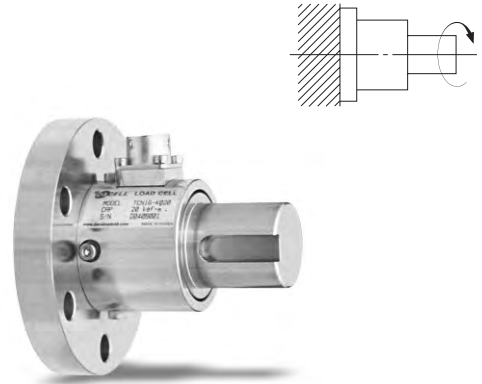
Capacity	A	B	C	ØD	E	F	G
2kgf-cm (0.196N-m)	75	20	35	34	15	1	8
5kgf-cm (0.490N-m)	75	20	35	34	15	1	8
10kgf-cm (0.981N-m)	75	20	35	34	15	1	8
20kgf-cm (1.961N-m)	75	20	35	34	15	1	8
30kgf-cm (2.942N-m)	75	20	35	34	15	1	12
50kgf-cm (4.903N-m)	75	20	35	34	15	1	12
1kgf-m (9.807N-m)	82	21	40	40	16	5×5	18
2kgf-m (19.61N-m)	82	21	40	40	16	5×5	18
3kgf-m (29.42N-m)	82	21	40	43	16	5×5	18
5kgf-m (49.03N-m)	82	21	40	43	16	5×5	18
10kgf-m (98.07N-m)	110	35	40	62	30	10×8	32
20kgf-m (196.1N-m)	110	35	40	62	30	10×8	32
50kgf-m (490.3N-m)	155	55	45	84	50	12×8	47
100kgf-m (980N-m)	155	55	45	84	50	12×8	47

★Specifications are subject to change without notice.

Non-Rotry Torque Sensors

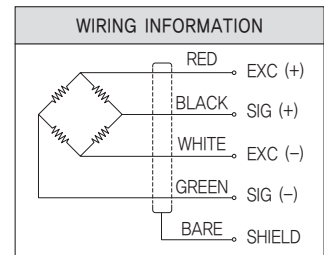
>Model TCN16

A static torque sensor for measurement of torque of stationary objects or within a certain angle rotation. Suitable for torque measurement of various automobile parts, pneumatic and electric screwdriver etc.



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	2~50kgf-cm(0.196N-m~4.903N-m), 1~100kgf-m(9.807N-m~980N-m)
Rated output(R.O.)	1mV/V $\pm$ 1%
Nonlinearity	0.3% of R.O.
Hysteresis	0.2% of R.O.
Repeatability	0.1% of R.O.
Excitation recommended	10V DC
Temperature range, compensated	0.3% R.O./10°C
Temperature range, safe	0.2% LOAD/10°C
Safe overload	120% R.C.



>DIMENSIONS TABLE

unit:mm

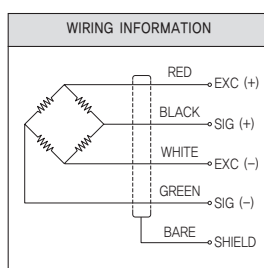
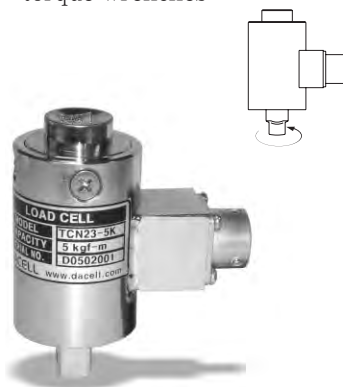
Capacity	A	B	C	D	E	F	G	H	I	J	K
2kgf-cm (0.196N-m)	63	58	20	34	15	1	8	5	20	4-Ø4.5	46
5kgf-cm (0.490N-m)	63	58	20	34	15	1	8	5	20	4-Ø4.5	46
10kgf-cm (0.981N-m)	63	58	20	34	15	1	8	5	20	4-Ø4.5	46
20kgf-cm (1.961N-m)	63	58	20	34	15	1	8	5	20	4-Ø4.5	46
30kgf-cm (2.942N-m)	68	80	20	34	15	1	12	10	40	4-Ø6.5	66
50kgf-cm (4.903N-m)	68	80	20	34	15	1	12	10	40	4-Ø6.5	66
1kgf-m (9.807N-m)	74	80	21	43	16	5×5	18	10	40	4-Ø6.5	66
2kgf-m (19.61N-m)	74	80	21	43	16	5×5	18	10	40	4-Ø6.5	66
3kgf-m (29.42N-m)	74	80	21	43	16	5×5	18	10	40	4-Ø6.5	66
5kgf-m (49.03N-m)	74	80	21	43	16	5×5	18	10	40	4-Ø6.5	66
10kgf-m (98.07N-m)	93	98	35	50	30	10×8	32	15	40	6-Ø10.5	78
20kgf-m (196.1N-m)	93	98	35	50	30	10×8	32	15	40	6-Ø10.5	78
50kgf-m (490.3N-m)	123	146	55	84	50	12×8	47	20	60	6-Ø13	115
100kgf-m (980N-m)	123	146	55	84	50	12×8	47	20	60	6-Ø13	115

★ Specifications are subject to change without notice.

Socket Wrench Rotary Torque Sensors

>Model TCN23

- Adaptable for portable usage
- No special adapter tools required
- Precision repeatable torque measurements
- Calibration reference for 'hard usage' mechanical torque wrenches



>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	2~1000kgf-cm
Rated output(R.O.)	1mV/V±1%
Nonlinearity	0.3% R.O.
Hysteresis	0.3% R.O.
Repeatability	0.2% R.O.
Excitation recommended	10V
Terminal resistance, input	350Ω ±30Ω
Terminal resistance, output	350Ω ±2Ω
Insulation resistance bridge	2000MΩ
Temperature range, compensated	-10~60°C
Temperature range, safe	-10~80°C
Safe overload	120% R.C.
Cable length	Ø5, 4core, 5m

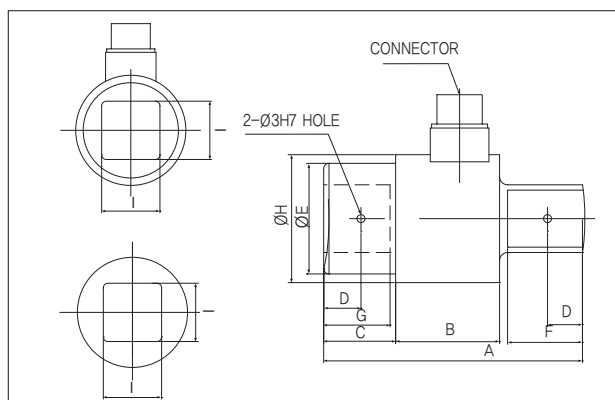
>DIMENSIONS TABLE

Unit:mm

Capacity	A	B	C	D	ØE	F	G	ØH	I
2 kgf-cm	58	33	12	4	14	11	11	28	1/4"
5,10 kgf-cm	60	33	13	5.5	16.5	12.5	12	28	3/8"
20,50 kgf-cm	60	33	13	5.5	16.5	12.5	13	28	3/8"
100,200kgf-cm	71	37	16	7	22	16	17	28	5/8"
500,1000kgf-cm	98	39	27	14	41.5	29	27	48	1"

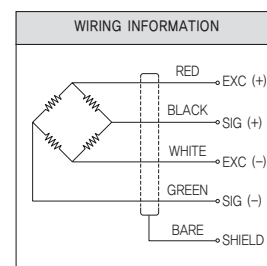
>DIMENSIONS

unit:mm



>Model TCN129

- Static torque sensor
 - Made of aluminum alloy
 - Compact structure, easy to install
 - Used for static, non-continuous rotational torque force measurements
- Protection Class IP65

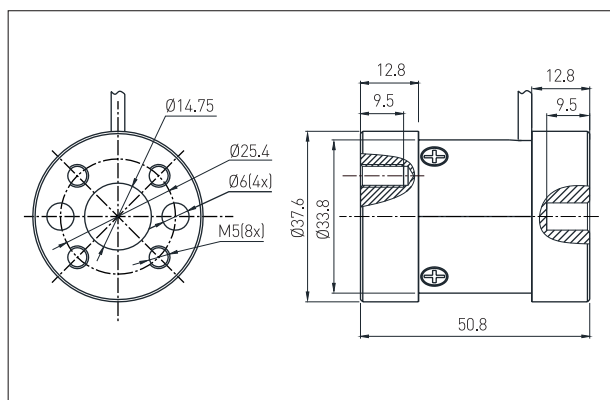


>SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	10, 20, 30, 50, 100 (N-m)
Rated output(R.O.)	2.0±10% mV/V
Zero balance	±2% F.S.
Nonlinearity	0.5% F.S.
Hysteresis	0.25% F.S.
Repeatability	0.1% F.S.
Creep [30min]	0.5% F.S.
Temperature effect, on rated output	0.05% F.S. / 10°C
Temperature effect, on zero	0.05% F.S. / 10°C
Terminal resistance input	350±30Ω
Terminal resistance output	350±5Ω
Insulation	2000MΩ
Excitation recommended	10V
Excitation maximum	15V
Temperature range, compensated	-10~60°C
Temperature range, operation	-20~80°C
Safe overload	120% F.S.
Ultimate overload	200% F.S.
Cable length	Ø3 X 3m

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.

Digital Tachometer

RPM Sensor Magnet Type



>Model DN30W

RPM processor/tachometer (frequency input).
The setup sequence is simple and quick using four push buttons only.

- Relay output(Hi, Low)
- 4 Relay output
- Peak & sample hold
- Analog out (DAC)
- Watch dog
- Calibration by Pulse/circle input

■Option

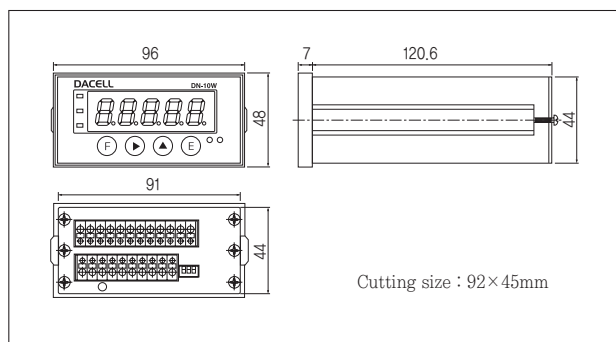
- OP-02 : RS232C serial interface
- OP-03 : RS485 Multi drop interface
- OP-06 : Power 24VDC

>SPECIFICATIONS

Specifications	Accuracy
Application sensor	Proximity sensor (MP981) , Rotary Encoder
Sensor authorized voltage	DC 12V
Measuring range	Input frequency 5kHz max, 1 ~ 350 pulse/circle
Measuring accuracy	0.05%
Display	0 ~ 99999
Character height	7 segment LED 14mm
Voltage output	DC 0 ~ 10V (4~20mA: in accordance with customer request)
Contact capacity	AC 125V 0.5A, DC 24V 1A
Relay life time	more than 5,000,000 times
Usage temperature range	-10°C ~ 60°C
Humidity	less than 80% RH (no dew condensation)
Power source used	AC 220V 50/60Hz
Dimensions	96 × 48 × 128mm
Cutting size	91.5 × 44.5mm
Weight	About 800 g

>DIMENSIONS

unit:mm



>Model MP-981

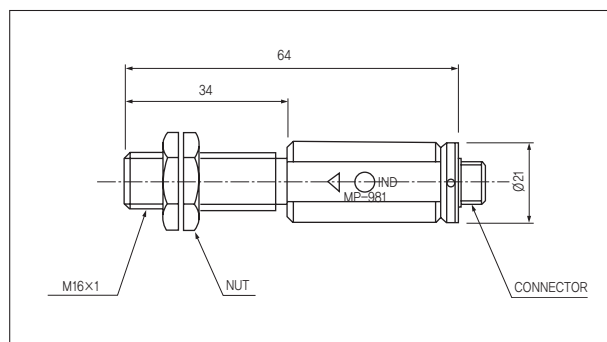
The MP-981 is a magneto-type detector using a hall element which is suitable for rpm measurement from ultra low speed to high speeds.

>SPECIFICATIONS

Specifications	Accuracy
Detection method	Hall element
Measurement range	1Hz~20kHz(using a 60P/R gear, 1~20,000r/min, with an output waveform duty cycle 50%±20%)
Detection gear	Strong magnetic materials
Gap between detector and gear	(modulus 0.5~3, tooth width 3 mm or greater)
Power supply used	DC 12V±2V(0.5Vp-p or less ripple)
Current consumption	40mA or less(12V, at 25°C)
Output waveform	Low level:±0.5V rectangular waveform(With no load)
Output impedance	Approx. 330Ω
Output type	Floating ground
Protective circuit	Power supply polarity and output short protection
Operating temperature range	-10°C~+70°C
Storage temperature range	-20°C~+80°C
Matching connector	6-pin connector(type R04-PB6F plug)
Allowable vibration	double-ended 1.2mm at 30Hz in X, Y and Z direction (during-operation)
Allowable shock(non-operating)	490m/s ² in X and Y direction each 3 times.
Withstand voltage	1.DC250V, 1min.(between shield and signal cable) 2.DC250V, 1min.(between shield and sensor head)
Interface indicator	DN-30
Weight	Approx. 80g(including two mounting nuts)
Accessories	Mounting nuts(2)

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.

Digital Indicator

>Model DN-10W, DN-15W

The product have designed specifically to operate with strain gauge sensors such as Fast-measurement of Load cell, Pressure Transducer, LVDT, etc. The setup sequence is simple and quick using four push buttons only.

- High resolving power (16bit A/D)
- High precision (more than 0.012% F.S) and stability
- Quick sampling speed (100 times/sec)
- Built-in Shunt calibration switch
- Watch dog
- Calibration of actual load and sensor output value
- Peak hold and Sample hold
- Auto zero
- Small size (96×48×128mm),
- Weight : about 700g

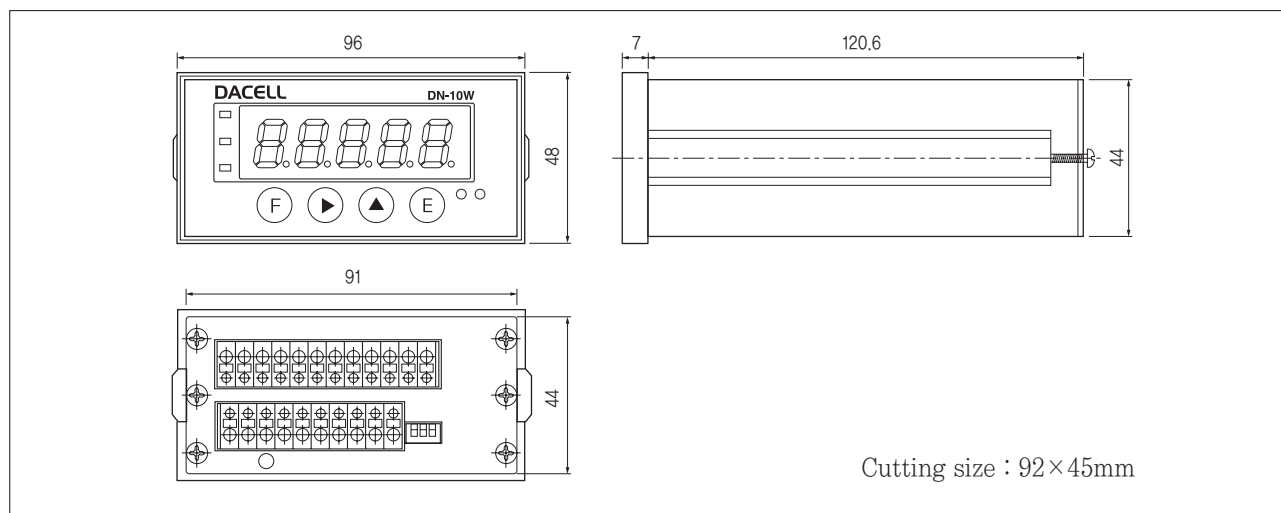


>SPECIFICATIONS

Specification	Accuracy	
	DN15W	DN10W
Application sensor	Strain gauge sensor (350Ω or 700Ω)	
Sensor authorized voltage(the number of Loadcell connection)	DC 5V, Loadcell(350Ω) available 4	
Zero adjustment range	100% F · S (Auto Zero)	
Input signal	0.5 ~ 3mV/V	
Display	-19999 ~ 99999	
Display speed	Approx 30times/sec(Adjustment available by buff setting)	
Character height	7Segment 5 digit LED 14mm	
Decimal point	Random setting available	
A/D converter	16bit, Max. 100 times/sec	
D/A converter	12bit	
Zero variation	within 0.5μV/°C	
Sensitivity variation	within 0.01%/°C	
Usage temperature range	-10°C ~ 60°C	
Humidity	less than 80% RH (no dew condensation)	
Voltage output	DC 0~10V (4~20mA : in accordance with customer request)	
Power source used	220V 50/60Hz (110V available by internal operation)	
Relay output	- Upper and lower limit comparison output • 4 relay output • Contact capacity : AC 250V 5A • Relay life time : more than 5,000,000 times	
Network	RS-232C	
Option	• OP-01 : BCD paralle out • OP-02 : RS232C serial interface (Standard installed) • OP-05 : Input signal 5mV/V (DLH-A) • OP-06 : Power 24VDC	

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.

High Speed Digital Indicator

>Model DN-50W, DN-40W

The DN-50W, DN-40W have designed specifically to operate with strain gauge sensors such as Fast – measurement of Load cell, Pressure Transducer, LVDT, etc. The setup sequence is simple and quick using four push buttons only. And comparison output are available.

※ Sampling speed : Appir. 1000Times Per Second

- DN-40W : Analog output : Dynamic Output
- DN-50W : Analog output : DAC Output, Analog peak hold



>SPECIFICATIONS

Specifications	Accuracy
Application sensor	Strain guage sensor (350 Ω or 700 Ω)
Sensor authorized voltage (the number of Loadcell connection)	DC 5V, Loadcell(350 Ω) available 4
Zero adjustment range	100%F · S (Auto Zero)
Input signal	0.5 ~ 3.0mV/V
AD converter	24bit 1000times/sec
DA converter	16bit 1000 times/sec (DN 50W)
Display	-19999 ~ +99999
Display speed	Appox. 32times/sec
Character height	7Segment 14mm
Decimal point	Random setting available
Sampling speed	Max 1000 times/sec
Zero variation	within 0.5 μ V/°C
Sensitivity variation	50ppm/°C
Voltage output	0 ~ 10V (O. 4~20mA in accordance with customer request)
Usage temperature range	-10°C ~ 60°C
Humidity	less than 80% RH (no dew condensation)
Power source used	AC 85 ~ 240V 50/60Hz
Relay output	Contact capacity : AC250/5A
	Relay life time : more than 5,000,000 times

■ Feature

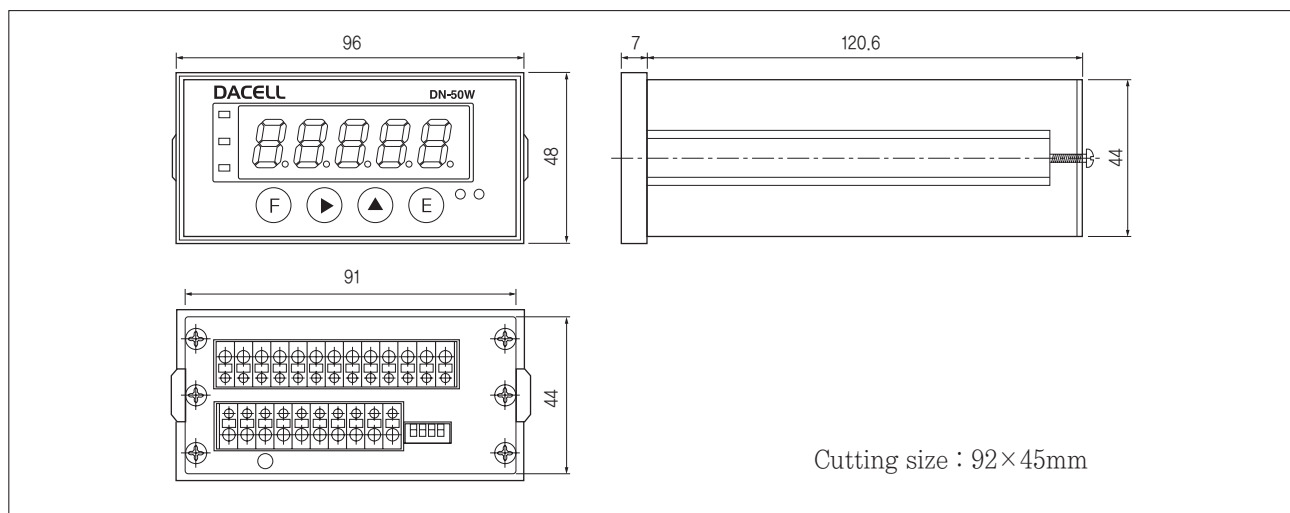
- High resolution (24bit ADC, 16bit DAC)
- High precision (more than 0.01% F.S) and stability
- Quick sampling speed (1000times/sec)
- Relay output : Hi, Low, NG, OK.
- UNIT CONVERSION : kg, N, lb, kg/cm², bar, MPa
- Display part and analogue zero by auto zero
- Small Size (96×48×128mm)
- Peak & sample hold
- Watch dog

■ OPTION

- OP-01 : BCD paralle out
- OP-02 : RS232C serial interface (Standard installed)
- OP-03 : RS485 Multi drop interface
- OP-05 : Input signal 5mV/V (DLH-A)
- OP-06 : Power 24VDC

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.

High Speed Digital Indicator

>Model DN100, DN200

The DN-100 and DN200 have designed specifically to operate with strain gauge sensors such as Fast – measurement of Loadcell, Torquemeters, Pressure Transducer, LVDT, etc.,

- High resolution
- High precision and stability
- Quick sampling speed
- UNIT CONVERSION : kg, N, ℓ b, kg/cm^2 , bar, MPa
- Display part and analogue zero by auto zero(DAC)
- Relay output : Hi, Low, NG, OK.
- Watch dog
- Calibration of actual load and sensor output value
- Peak & sample hold, Average hold
- DN100 : sampling speed : Appr. 5000Times Per Second
- DN200 : sampling speed : Appr. 1000Times Per Second

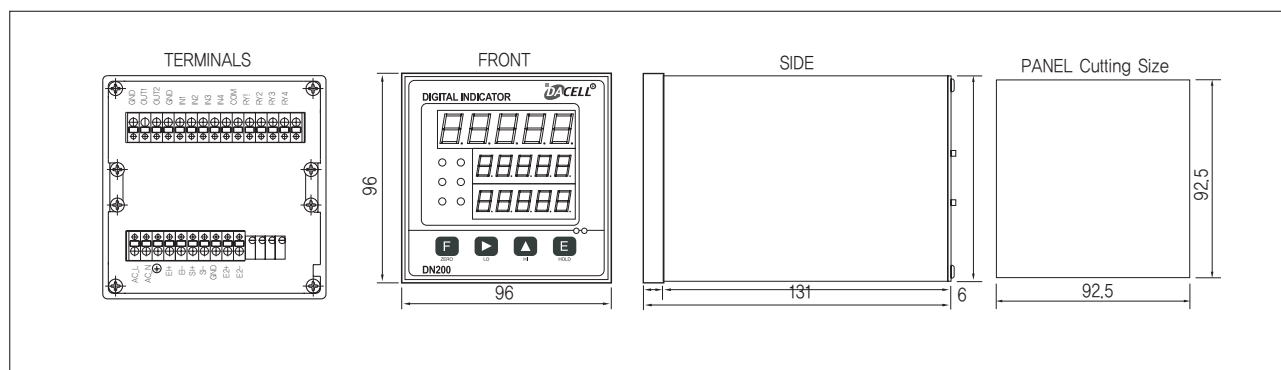


>SPECIFICATIONS

Specifications	Accuracy	
	DN100	DN200
Application sensor	Strain gauge sensors	
Sensor authorized voltage (the number of Loadcell connection)	DC 5V, Loadcell(350Q) available 4	
Zero adjustment range	100%F · S (Auto Zero)	
Input signal	0.5~3mV/V	
Display	-19999~+99999	
Character height	7Segment 14mm & 10mm	
Decimal point	Random setting available	
A/D converter	16bit 5000 times/sec	24bit 1000 times/sec
D/A converter	16bit 1000 times/sec	16bit 1000 times/sec
Relay output	Contact capacity : AC250V 5A, Relay life time : more than 5,000,000 times	
Zero variation	Within 0.5 μ V/°C	
Sensitivity variation	Within 0.01%/°C	
Voltage output	DC 0 ~ 10V (4 ~ 20mA : in accordance with customer request)	
Usage temperature range	-10°C ~ 60°C	
Humidity	Less than 80% RH (no dew condensation)	
Power source used	AC 85 ~ 240V 50/60Hz	
Weight	1000g	
Option	OP-01 : BCD output	
	OP-02 : RS232C serial interface (Standard installed)	
	OP-03 : RS485 Multi drop interface	
	OP-04 : RS422 serial interface	
	OP-06 : Power 24VDC	

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.

High Speed Digital Indicator

>Model DN150, DN250

The DN-150 and DN250 have designed specifically to operate with strain gauge sensors such as Fast - measurement of Loadcell, Torquemeters, Pressure Transducer, LVDT, etc.,

- High resolution
- High precision and stability
- Quick sampling speed
- UNIT CONVERSION : kg, N, ℓ b, kg/cm^2 , bar, MPa
- Display part and analogue zero by auto zero(DAC)
- Relay output : Hi, Low, NG, OK.
- Watch dog
- Calibration of actual load and sensor output value
- Peak & sample hold, Average hold
- Analog Peak Hold
- DN150 : sampling speed : Appr. 5000Times Per Second
- DN250 : sampling speed : Appr. 1000Times Per Second

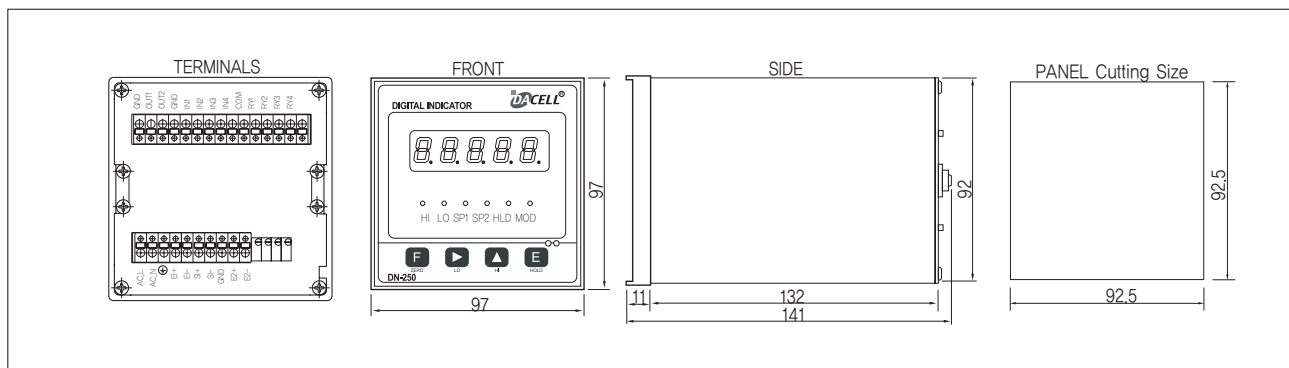


>SPECIFICATIONS

Specifications	Accuracy	
	DN150	DN250
Application sensor	Strain guage sensors	
Sensor authorized voltage (the number of Loadcell connection)	DC 5V, Loadcell(350 Ω) available 4	
Zero adjustment range	100%F · S (Auto Zero)	
Input signal	0.5~3mV/V	
Display	-19999~+99999	
Character height	7Segment 14mm	
Decimal point	Random setting available	
A/D converter	16bit 5000 times/sec	24bit 1000 times/sec
D/A converter	16bit 1000 times/sec	16bit 1000 times/sec
Relay output	Contact capacity : AC250V 5A, Relay life time : more than 5,000,000 times	
Zero variation	Within 0.5 μ V/°C	
Sensitivity variation	Within 0.01%/°C	
Voltage output	DC 0 ~ 10V (4~20mA : in accordance with customer request)	
Usage temperature range	-10°C ~ 60°C	
Humidity	Less than 80% RH (no dew condensation)	
Power source used	AC 85 ~ 240V 50/60Hz	
Weight	1000g	
Option	OP-01 : BCD output	
	OP-02 : RS232C serial interface (Standard installed)	
	OP-03 : RS485 Multi drop interface	
	OP-04 : RS422 serial interface	
	OP-06 : Power 24VDC	

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.

AC Digital Indicator

>Model DN1000A

The product, an indicator displaying micro-voltage signal in digital amplified from differential trans sensors, is used for fast-measurement of LVDT, brushless type torquemeter (Model TRC).

- High resolution (24bit ADC, 16bit DAC)
- High precision (more than 0.01% F.S) and stability
- Quick sampling speed (1000times/sec)
- UNIT CONVERSION : kg, N, lb, kg/cm², bar, MPa
- Display part and analogue zero by auto zero
- Watch dog
- Calibration of actual load and sensor output value
- Peak hold and Sample hold
- Relay output : Hi, Low, NG, OK.
- Analog out (DAC)



■Option :

- OP-01 : BCD parallel out
- OP-02 : RS232C serial interface (Standard installed)
- OP-03 : RS485 Multi drop interface

>SPECIFICATIONS

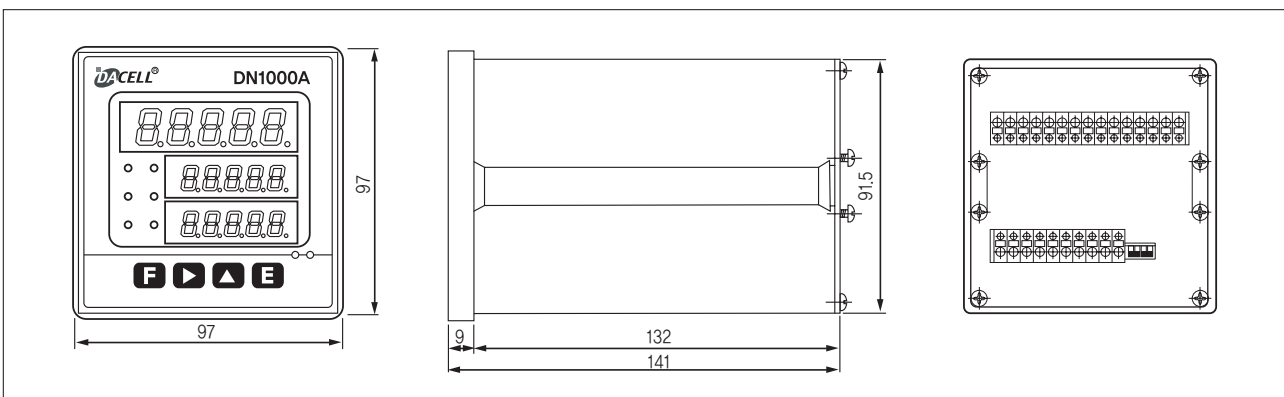
Specifications	Accuracy
Application converter	differential trans sensors (TRC)
Sensor authorized voltage	2Vrms/5kHz
Zero adjustment range	100% F.S (Auto Zero)
Signal input range	0 ~ 2mV/V
Display range	-19999 ~ +99999
Character height	7 segment LED 14mm & 10mm
AD converter	24bit 1000times/sec
D/A converter	16bit 1000times/sec
Zero variation	Within 0.5μV/°C
Sensitivity variation	Within 0.01%/°C
Analog output	0 ~ 10V (4 ~ 20mA : in accordance with customer request)
Contact capacity	AC 250V 5A
Relay life time	more than 5,000,000 thmes
Usage temperature range	-10°C ~ 60°C
Humidity	less than 80% RH (no dew condensation)
Power resource	AC 85 ~ 240V 50/60Hz
Dimension	97 × 97 × 141mm
Cutting size	92.5 × 92.5mm
Weight	1000g

Various functions

- ① Peak hold and Sample hold
- ② Relay output : Hi, Low, NG, OK.
- ③ Analog out (DAC)

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.

2ch Digital Indicator

>Model DN-130L

DN-130L is 2channels indicator to operate with strain gauge sensors such as Fast – measurement of Load cell, Pressure Transducer, LVDT, etc. Digital display and analog output, comparison output are available.

- High resolution : 24bit ADC, 16bit DAC
- 2 channel indicator
- High precision (more than 0.01% F · S)and stability
- Quick sampling speed (200times/sec)
- UNIT CONVERSION : kg, N, lb, kg/cm², bar, MPa
- Display part and analogue zero by auto zero (DAC)
- Watch dog
- Calibration of actual load and sensor output value
- Peak & sample hold
- Analog Peak Hold
- Relay output : Hi, Low

■OPTION

- OP-02 : RS232C serial interface (Standard installed)
- OP-03 : RS485 Multi drop interface
- OP-06 : Channel 1 – sensor input 0~3mV/V(Loadcell)
Channel 2 – sensor input 0~10V (LVDT)

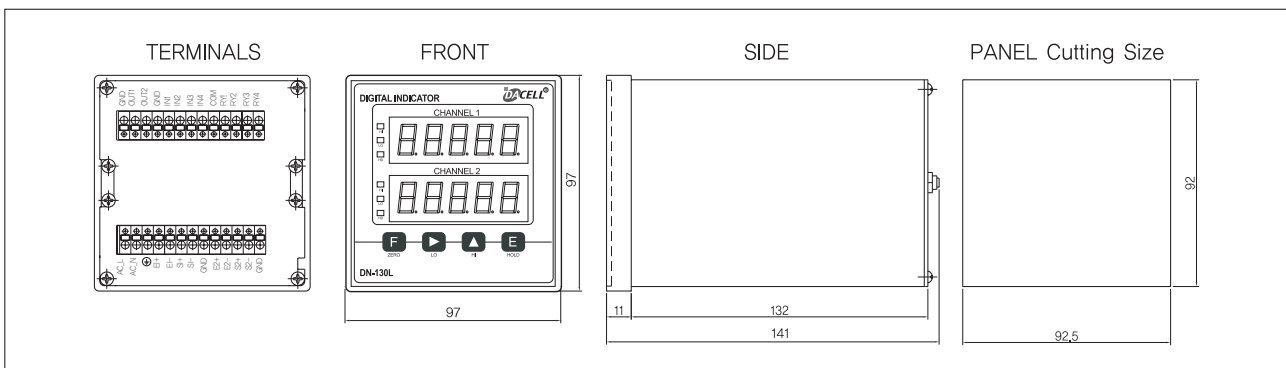


>SPECIFICATIONS

Specifications	Accuracy
Application sensor	Strain gauge sensor
Sensor authorized voltage	DC 5V
Zero adjustment range	100%F · S (Auto Zero)
Input signal	0.5 ~ 3mV/V
Display	-19999 ~ +99999
Character height	7 Segment LED 14mm
A/D converter	24 bit 200 times/sec
D/A converter	16 bit
Zero variation	within 0.5μV/°C
Sensitivity variation	within 0.01%/°C
Voltage output	DC 0~10V (4 ~ 20mA : in accordance with customer request)
Cintact capacity	AC250V 5A
Relay life time	More than 5,000,000 times
Isage temperature range	-10°C ~ 60°C
Humidity	Less than 80% RH (No dew condensation)
Power source used	AC 85 ~ 240V 50/60Hz
Dimensions	97 X 97 X 141mm
Cutting size	92.5 X 92.5mm
Weight	About 1000g

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.

2ch Digital Indicator

>Model DN-130T, DN-230A

These indicators can use Torque and RPM measurement at the same time. Digital display and analog output, comparison output are available.

- Torque, RPM simultaneous measurement
- High resolution (24bit ADC, 16bit DAC)
- High precision (more than 0.012% F.S) and stability
- Upper and lower limit comparison output (Torque, RPM)
- Analog output (Torque, RPM)
- UNIT CONVERSION : kg, N, lb, kg/cm², bar, MPa
- Quick sampling speed (1000times/sec)
- Watch dog
- Calibration of actual load and sensor output value
- Display part and analogue zero by auto zero (DAC)
- Analog out (DAC)

■OPTION

- OP-02 : RS232C serial interface (Standard installed)
- OP-03 : RS485 Multi drop interface

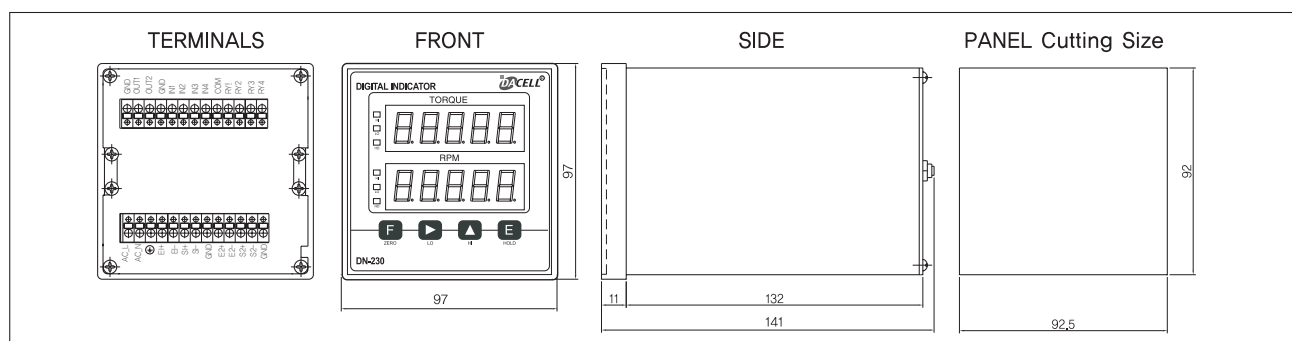


>SPECIFICATIONS

Specifications	Accuracy	
	DN130T	DN230A
Application sensor	Torque : Brush type torquemeter RPM : Proximity sensor (MP981)	Torque : Brushless type torquemeter (TRC) RPM : Proximity sensor (MP981)
Sensor authorized voltage	Torque : DC 5V RPM : DC 12V	Torque : DC 2Vrms, 5kHz RPM : DC 12V
Input signal	Torque : 0.5 ~ 3mV/V RPM : DC 12V	Torque : 0.5 ~ 2mV/V RPM : 1 ~ 350 pulse/circle
Zero adjustment range	Torque : 100% F.S (Auto Zero)	
Display	Torque : -19999 ~ +99999 RPM : 0 ~ 60000	
Character height	7 segment LED 14mm	
A/D converter	Torque 24bit 1000 times/sec	
D/A converter	Torque 16bit	
Zero variation	Torque Within 0.5mV/°C	
Sensitivity	Torque Within 0.01%/°C	
Voltage output	DC 0 ~ 10V (4 ~ 20mA : in accordance with customer request)	
Contact capacity	AC250V 5A	
Relay life time	More than 5,000,000 times	
Usage temperature range	-10°C ~ 60°C	
Humidit	Less than 80% RH (No dew condensation)	
Power source used	AC85 ~ 240V 50/60Hz	
Dimensions	97 X 97 X 141mm	
Cutting size	92.5 X 92.5mm	
Weight	About 1000g	

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.

Graphic Indicator

>Model DN-GI100, DN-GI200

Graphic Color LCD Touch Screen...

High Accuracy Signal Conditioner.

Diverse Load Control Mode.

DN-GI100 : 1ch indicator (load cell),

High sampling speed, 4,000/sec

DN-GI200 : 2ch indicator (CH1 :load cell,CH2:Distance Sensor),

High Sampling Speed: 2,000/sec.(1 ch.)



>SPECIFICATIONS

Specifications		Accuracy	
		A-Channel,(Load Cell)	B-Channel,(Distance Sensor)
Sensor EXC		DC 10/5V, 120mA	N/A
Input Signal Range		0~±40mV	0~±10V, 4~20mA, 0~20mA
Nonlinearity		±0.02% F.S +1digit	±0.02% F.S+1digit
Input Sensitivity		1.0 μ V/Digit	1.0mV/Digit (0~10V)
Conversion Speed		2,000times/sec. (GI100 1ch : 4,000times/sec.)	2,000times/sec.
Input Impedance		10Mohm	1 Mohm / 50ohm
Temperature Factor.		±0.005% of rdg +0.5 digit/°C	
Analogue Filter		10, 30, 300, 600 Hz	
Display Window		STN color LCD, 74(W)×55(H)mm	
Digit		0~±99999	
Circumstance		0~40°C	
Power		AC 100~240V, 50/60Hz	
Consumed Power		Around 32VA	
Output	Standard	Relay Output (HH, HI, GO, LO, LL)	
	Option	1. RS-232C serial output (standard) 2. RS-485 serial output 3. ±0~10V or 4~20mA Analogue output 4. BCD parallel output 5. SD memory card (standard)	
Weight		Around 1.0Kg	

>DIMENSIONS

unit:mm

FRONT	SIDE	PANEL Cutting Size

★Specifications are subject to change without notice.

Web Tension Indicator

Total Indicator (3~4ch)



DSC40
(Digital Conditioner)



DN340

>Model DN300

Show totals separately with 2ch indicator.
Left and right values and totals are displayed separately
Analog and contact outputs for each channel and sum individually.

Calibration method by actual load and calibration with rated output of sensor.

- Watch dog
- Display part and analogue zero by auto zero (DAC)
- Analog out(DAC)
- Relay output : Hi, Low, NG, OK.
- Suitable for use with model RTB15

■Option

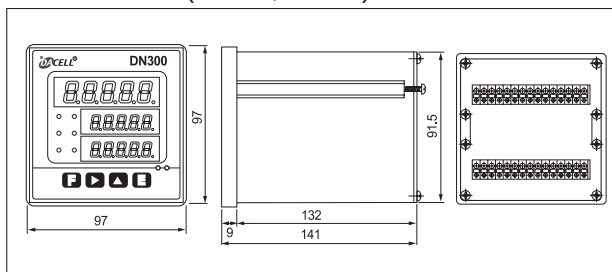
- OP-02 : RS232C serial interface (Standard installed)
- OP-03 : RS485 Multi drop interface

>SPECIFICATIONS

Specifications	Accuracy
Signal	1 ~ 3mV/V
Analog OUT	CH1 : 0 ~ 10V CH2 : 0 ~ 10V CH3 : 0 ~ 10V (A + B, IA - BI) (4 ~ 20mA option)
Excitation	5V
Available Sensors	Strain gauge type sensor (bridge 120, 350, 700)
Max. Indication	-19999 ~ +99999
A/D Converter	24bit 1000 times/sec
D/A Converter	16bit
Temp.	ZERO 0.5μV/°C SPAN 50ppm/°C
Indicator	7 segment LED 14mm / 10mm
Status LED	Red LED 6 EA
Key switch	4 EA
Communication	RS232C (A + B)
Comparison Output	A + B, IA - BI
Contact Capacity	AC 250V 5A
Temperature	-10°C ~ 60, 80% RH or less (no condensation)
Weight	About 600g
Power supply	AC 90 ~ 240V, 50/60Hz
Outer Diameter	97 × 97 × 141 mm (W × H × D)
Panel Cutting Size	92.5 × 92.5 mm

>DIMENSIONS (DN300, DN340)

unit:mm



>Model DN330, DN340

Digital indicator that displays the individual outputs and sum of the outputs of the four load cells. Suitable for high weight hopper, tank scale. Each load cell can be individually calibrated via the DSC40 and indicators.

- Watch dog
- Display part and analogue zero by auto zero(DAC)
- Relay output : Hi, Low, NG, OK.
- Analog out(DAC)
- DN330 : 3CH indicator DN340 : 4 CH indicator

■Option

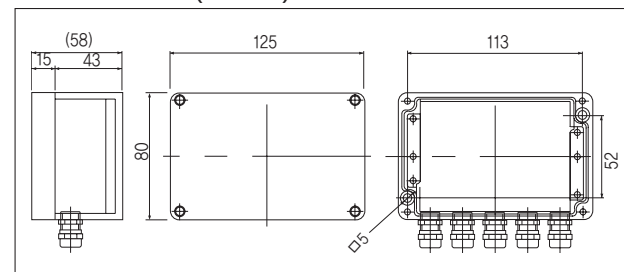
- OP-01 : BCD parallel out
- OP-02 : RS232C serial interface (Standard installed)
- OP-03 : RS485 Multi drop interface

>SPECIFICATIONS

Specifications	Model	
	DN-340	DSC40
Signal	-	1 ~ 3mV/V
Analog OUT	DC 0~10V (4 ~ 20mA option)	-
Excitation	-	DC 5V
Pressure Sensor count	-	4 Channel
Available Sensors	-	Stainless gauge sensor (bridge 120, 350, 700)
Display range	Individual display : -1999 ~ +9999 Sum display : -19999 ~ +99999	-
A/D Converter	-	24 bit
D/A Converter	16 bit	-
Temp.	ZERO - SPAN -	0.5μV/°C 50ppm/°C
Measurement display	Individual : 7 segment LED 8mm Sum : 7 segment LED 14mm	-
Status LED	Red LED 6 ea	-
Key switch	4 ea	-
Comparison output	Upper limit (HI), lower limit (LO), normal (OK) Output (4 Relay)	-
Contact capacity	AC 250V 5A	-
Temperature	-10°C ~ 60°C, 80% RH or less	-10°C ~ 60°C, 80% RH or less
Weight	About 600 g	About 350 g
Power supply	AC 90 ~ 240V 50/60Hz	DC 8 ~ 12V, 2W
Cable grand	-	ø8mm cable grand 5ea
Option	RS232C or RS485	-
Outer diameter	97(W) × 97(D) × 141(H)mm	125(W) × 80(D) × 58(H)mm
Panel cutting size	92.5 × 92.5mm	-

>DIMENSIONS (DSC40)

unit:mm



★Specifications are subject to change without notice.

Digital Weighing Indicator



>Model DN500N

- Platform scale, Truck scale, Tension/compression tester, Horse weigher, etc.
- 50 kind of parts number can be memorized
- Watch-dog function installed for diagnostics
- Data back up against power stoppage.
- Front display window covered by lexan film for the protecting of dust
- Weighing judgment by over & under setting when printer is connected
- Three kinds of hold function (peak-hold and average-hold, auto-hold)
- Can drive up to 8pcs of load cell (350.)
- RS-232C and CURRENT LOOP standard installed

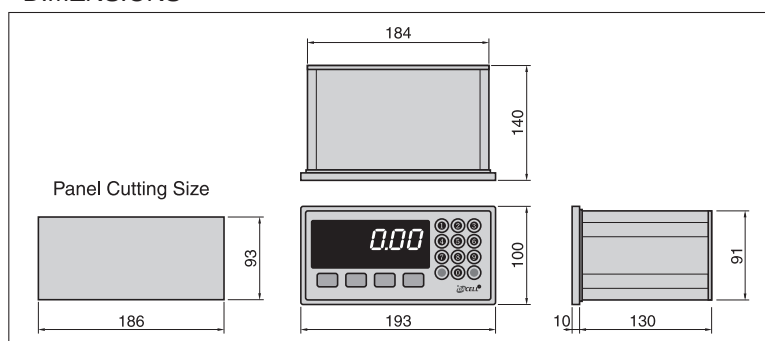
>SPECIFICATIONS

Specifications	Accuracy
Load cell excitation	10VDC $\pm$ 5%, 320mA
A/D converting speed	200times/sec
A/D converter resolution	: 1/520,000 counts(19bits), $\Delta \Sigma$
Nonlinearity	0.01% of full scale
Zero adjustment range	-0.6mV $\sim$ 42mV
Display Unit	7 segment, 20.0mm(H) $\times$ 13.0(W)mm
Annunciator	steady, zero, tare, gross, auto, print, hold, Interface
Decimal point position	0, 0.0, 0.00, 0.000
Keyboard	Number key and function key 16 PCS.
Temperature-drift	zero $\pm$ 20PPM/ $^{\circ}$ C, span $\pm$ 20PPM/ $^{\circ}$ C
Rear panel	Loadcell input : 5pin connector External control : 12pin input terminal (zero, tare, tare reset/hold/print, gross/hold reset/subprint, Current loop, RS232C)
Power	SMPS Free Voltage (85V $\sim$ 265V)

Option

- ① Analog Out-put (V-out) : 0 $\sim$ 10V ② Analog Out-put (I-out) : 4 $\sim$ 20mA
 ③ Serial I / F : RS-422, RS-485 ④ BCD In-put
 ⑤ BCD In-out
 ※ RS232C and Current loop : Standard Installed

>DIMENSIONS



★Specifications are subject to change without notice.



>Model DN510N

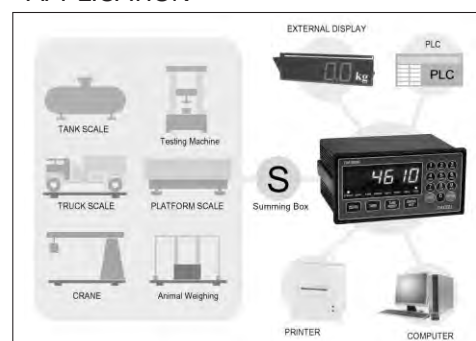
- Control for PACKER, FILLER, HOPPER, CHECKER, LIMIT SCALE etc.
- Totaling function by Parts.(50 parts)
- 4 Step control (SP1, SP2, SP3, SP4)
- 6 control relay built-in (SP1, SP2, SP3, SP4, FINISH, NEAR ZERO)
- Various Relay output mode (LIMIT, PACKER, CHECKER1, CHECKER2)
- Improved A/D Conversion speed and resolution(Max. 200times, 1/520,000)

>SPECIFICATIONS

Specifications	Accuracy
Load cell excitation	10VDC $\pm$ 5%, 320mA
A/D converting speed	200times/sec
A/D converter resolution	: 1/520,000 counts(19bits), $\Delta \Sigma$
Nonlinearity	0.01% of full scale
Zero adjustment range	-0.6mV $\sim$ 42mV
Display Unit	7 segment, 20.0mm(H) $\times$ 13.0(W)mm
Annunciator	steady, zero, tare, gross, auto, print, hold, Interface
Decimal point position	0, 0.0, 0.00, 0.000
Keyboard	Number key and function key 12 PCS.
Temperature-drift	zero $\pm$ 20PPM/ $^{\circ}$ C, span $\pm$ 20PPM/ $^{\circ}$ C
Rear panel	Loadcell input : 5pin connector External control : 12pin input terminal (zero, tare, tare reset/hold/print, gross/hold reset/subprint, Current loop, RS232C) control relay output : 7pin terminal
Power	SMPS Free Voltage (85V $\sim$ 265V)

unit:mm

>APPLICATION



Digital Weighing Indicator



>Model DN520N

- Application of Packer, Filler, Hopper, Checker, Limit Scale, etc.
- Totaling function by Parts, (50 parts)
- 2 Step Control (SP1, SP2)
- 6 Control RELAY according to MODE
 - LIMIT, PACKER MODE: (SP1, SP2, FINISH, UNDER NG, OVER NG, ZERO)
 - CHECKER MODE 1, 2, 3: (SP1[LOW], SP2[HIGH], OK, NG, ZERO)
- RELAY OUTPUT MODE: LIMIT, PACKER, CHECKER
- Improved A/D Conversion speed and resolution(Max. 200times, 1/520,000)

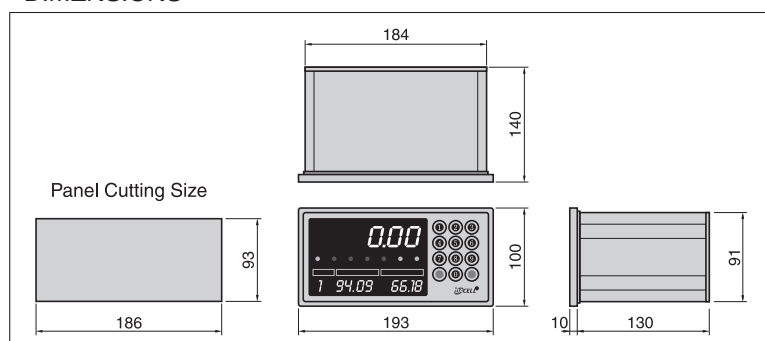
>SPECIFICATIONS

Specifications	Accuracy
Load cell excitation	10VDC±5%, 320mA
A/D converting speed	200times/sec
A/D converter resolution	: 1/520,000 counts(19bits), $\Delta \Sigma$
Nonlinearity	0.01% of full scale
Zero adjustment range	-0.6mV~42mV
Display Unit	7 segment, 20.0mm(H)×13.0(W)mm
Annunciator	steady, zero, tare, Run, SP1, SP2, hold, Interface
Decimal point position	0, 0.0, 0.00, 0.000
Keyboard	Number key and function key 12 PCS.
Temperature-drift	zero ±20PPM/°C, span ±20PPM/°C
Rear panel	Loadcell input : 5pin connector External control : 12pin input terminal (zero, tare, tare reset/hold/print, gross/hold reset/subprint, Current loop, RS232C) control relay output : 7pin terminal
Power	SMPS Free Voltage (85V~265V)

Option

- ① Analog Out-put (V-out) : 0~10V, 0~5V ② Analog Out-put (I-out) : 4~20mA
 ③ Serial I / F : RS-422, RS-485 ④ BCD In-put
 ⑤ BCD In-out
 ※ RS232C and Current loop : Standard Installed

>DIMENSIONS



>Model DN540N

- Control by quantity
- Application of Counting Packer, Hopper, Counting grader, Counting Scale, etc.
- Totaling function by Parts.
- Various Relay output mode
- Improved A/D Conversion speed and resolution(Max. 200times, 1/520,000)

>SPECIFICATIONS

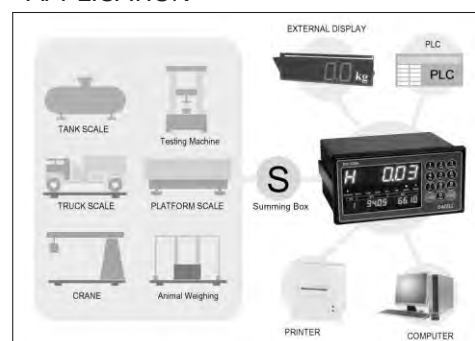
Specifications	Accuracy
Load cell excitation	10VDC±5%, 320mA
A/D converting speed	200times/sec
A/D converter resolution	: 1/520,000 counts(19bits), $\Delta \Sigma$
Nonlinearity	0.01% of full scale
Zero adjustment range	-0.6mV~42mV
Display Unit	7 segment, 20.0mm(H)×13.0(W)mm
Annunciator	steady, zero, tare, Run, SP1, SP2, hold, Interface
Decimal point position	0, 0.0, 0.00, 0.000
Keyboard	Number key and function key 12 PCS.
Temperature-drift	zero ±20PPM/°C, span ±20PPM/°C
Rear panel	Loadcell input : 5pin connector External control : 12pin input terminal (zero, tare, tare reset/hold/print, gross/hold reset/subprint, Current loop, RS232C) control relay output : 7pin terminal
Power	SMPS Free Voltage (85V~265V)

Option

- ① Analog Out-put (V-out) : 0~10V, 0~5V ② Analog Out-put (I-out) : 4~20mA
 ③ Serial I / F : RS-422, RS-485 ④ BCD In-put
 ⑤ BCD In-out
 ※ RS232C and Current loop : Standard Installed

unit:mm

>APPLICATION



★Specifications are subject to change without notice.

Printer Indicator



>Model DN530N

- Application of Packer, Filler, Hopper, Limit, Loss-In weighing
- 3 Step Control (PRESET1, PRESET2, PRESET3)
- 6 Control RELAY MODE :SP1, SP2, SP3, FINISH, ERROR, NEAR, ZERO
- RELAY OUTPUT MODE :(LIMIT, PACKER, DISCHARGE LIMIT, LOSS IN MODE1, LOSS IN MODE2)
- Improved A/D Conversion speed and resolution(Max. 200times, 1/520,000)

>SPECIFICATIONS

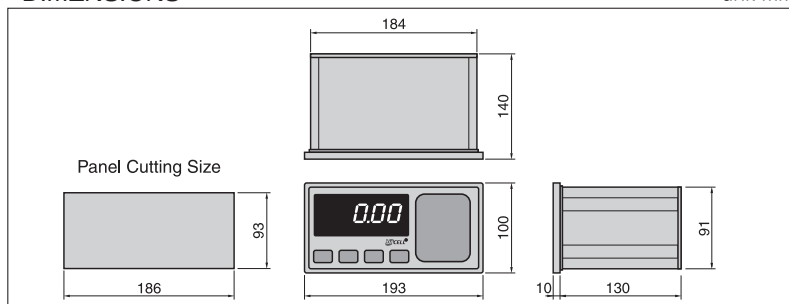
Specifications	Accuracy
Load cell excitation	10VDC±5%, 320mA
A/D converting speed	200times/sec
A/D converter resolution	1/520,000 counts(19bits), $\Delta \Sigma$
Nonlinearity	0.01% of full scale
Zero adjustment range	-0.6mV~42mV
Display Unit	7 segment, 20.0mm(H)×13.0(W)mm
Annunciator	steady, zero, tare, Run, SP1, SP2, hold, Interface
Decimal point position	0, 0.0, 0.00, 0.000
Keyboard	Number key and function key 12 PCS.
Temperature-drift	zero ±20PPM/°C, span ±20PPM/°C
Rear panel	Loadcell input : 5pin connector External control : 12pin input terminal (zero, tare, tare reset/hold/print, gross/hold reset/subprint, Current loop, RS232C) control relay output : 7pin terminal
Power	SMPS Free Voltage (85V~265V)

Option ① Analog Out-put (V-out) : 0~10V, 0~5V ② Analog Out-put (I-out) : 4~20mA
③ Serial I / F : RS-422, RS-485 ④ BCD In-put
⑤ BCD In-out * RS3232C and Current loop : Standard Installed

>RELAY MODE

	OUT1	OUT2	OUT3	OUT4	OUT5	OUT6
Limit ("A" Dry)	SP1	SP2	SP3	Low N.G	High N.G	Zero
Packer ("B" Dry)	SP1	SP2	SP3	Finish	N.G	Zero
Discharge Limit	SP1	SP2	SP3	Low N.G	High N.G	Zero
Feed Discharge	SP1(Feed)	SP2(Dis1)	SP3(Dis2)	Low N.G	High N.G	Zero
1 Feed / 2 Discharge	SP1(Feed)	SP2(Dis1)	SP3(Dis2)	Finish	N.G	Zero
2 Feed / 1 Discharge	SP1(Feed)	SP2(Dis1)	SP3(Dis2)	Finish	N.G	Zero

>DIMENSIONS



★Specifications are subject to change without notice.



>Model DN-5200N

- Industrial Control Application with Printing
 - Limit / Packer / Checker / Hopper / Testing
- 6pcs Control Relay built in
- A/D Sampling : 200times/sec
- Printer built in / Compact size
- Thermal type Hight Speed printing
- Peak / Sample / Average Hold Function
- Display Resolution : 1/30,000
- Various Options

>SPECIFICATIONS

Specifications	Accuracy
Input Sensitivity	0.2W / Digit
Load Cell Excitation	DC 10V (- 5V ~ + 5V)
Max. Signal Input Voltage	Max.32mV
Temperature Coefficient	[Zero] ±20PPM/°C [Span] ±20PPM/°C
Input Noise	±0.6mV P.P
Input Impedance	Over 10M Ω
A/D Conversion Method	Sigma-Delta
A/D Resolution(Internal)	520,000 Count(19bit)
A/D Sampling Rate	Max. 200times / Sec
Non-Linearity	0.01% FS
Display Resolution(External)	1/30,000

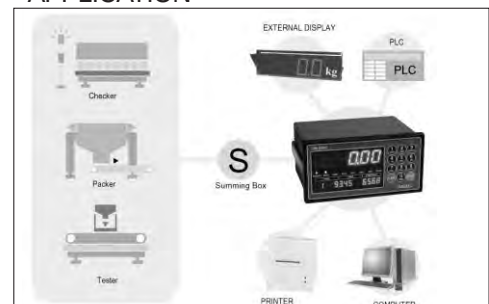
Option

① Analog Out-put (V-out) : 0~10V, 0~5V ② Analog Out-put (I-out) : 4~20mA
③ Serial I / F : RS-422, RS-485 ④ BCD In-put
⑤ BCD In-out
* RS3232C and Current loop : Standard Installed

>RELAY MODE

	OUT1	OUT2	OUT3	OUT4	OUT5	OUT6
Limit	SP1	SP2	SP3	SP4	Finish	Zero
Packer	SP1	SP2	SP3	SP4	Finish	Zero
Checker 1 (Stable mode)	Low	High	OK	Low N.G	High N.G	Zero
Checker 2 (Range mode)	SP1	SP1<SP2	SP2<SP3	SP3<SP4	SP4<	Zero

unit:mm >APPLICATION



Digital Weighing Indicator



>Model DN-550N

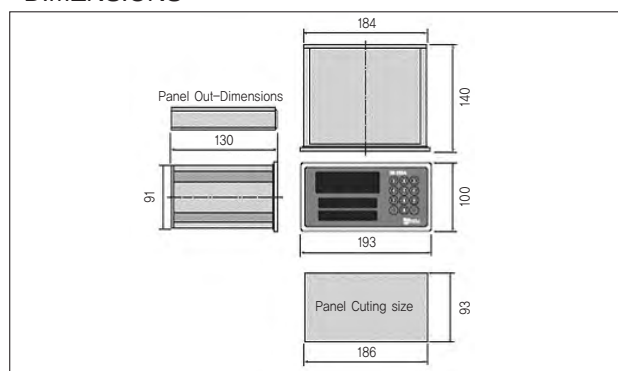
Multiple Accumulating Mixture Control Indicator
 Mas 16kinds Materials Mixed with 50 Formulas
 2 Step Control (DRIB, FINAL)
 6 Control RELAY (FINAL, DRIB, FINISH, BATCH FINISH, ZERO)

>SPECIFICATIONS

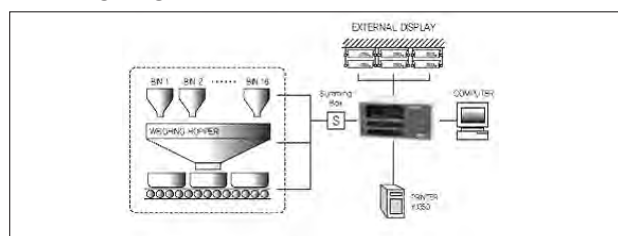
Specifications	Accuracy
Load cell excitation	10VDC $\pm$ 5%, 320mA
Input signal	0.5 ~ 3mV/V
A/D converting speed	200times/sec
A/D converter resolution	1/520,000 counts(19bits), $\Delta \Sigma$
Nonlinearity	0.01% of full scale
Zero adjustment range	-0.6mV $\sim$ 42mV
Display Unit	7 segment, 20.0mm(H) $\times$ 13.0(W)mm
Annunciator	steady, zero, tare, gross, sp1, sp2, run
Decimal point position	0, 0.0, 0.00, 0.000
Keyboard	Number key and function key 12 PCS.
Temperature-drift	zero $\pm$ 20PPM/ $^{\circ}$ C, span $\pm$ 20PPM/ $^{\circ}$ C
Rear panel	loadcell input : 5pin connector
	remote control : 5pin input terminal (start, stop, tare, tare reset, zero)
	BCD input : 25pin connector
Power	control relay : 7pin terminal (final, drib, finish, batch finish, zero)
	SMPS Free Voltage (85V $\sim$ 265V)

>DIMENSIONS

unit:mm



>APPLICATION



Digital Indicator



>Model DN-830

- Simulating Calibration
- Multi-Functional Control purpose Indicator
 - Limit / Packer / Checker / Testing Application
- 3pcs Control Relay built in
- 1/8 Din Size (96(W) $\times$ 48mm(H))
- A/D Sampling : 200times/sec
- Peak / Sample / Average Hold Function
- Display Resolution : 1/30,000
- Power : DC 12V $\sim$ 24V
- Rs-232C Serial Interface built in(Standard)

>SPECIFICATIONS

General Specification	
Input Sensitivity	0.2 μ V / Digit
Load Cell Excitation	DC 10V (- 5V $\sim$ + 5V)
Max. Signal Input Voltage	Max.32mV
Temperature Coefficient	[Zero] $\pm$ 10PPM/ $^{\circ}$ C / [Span] $\pm$ 10PPM/ $^{\circ}$ C
Input Noise	$\pm$ 0.6 μ V P.P
Input Impedance	Over 10M Ω
A/D Conversion Method	Sigma-Delta
A/D Resolution(Internal)	520,000 Count(19bit)
A/D Sampling Rate	Max. 200times / Sec
Nonlinearity	0.01% FS
Display Resolution(External)	1/30,000

■ OPTION

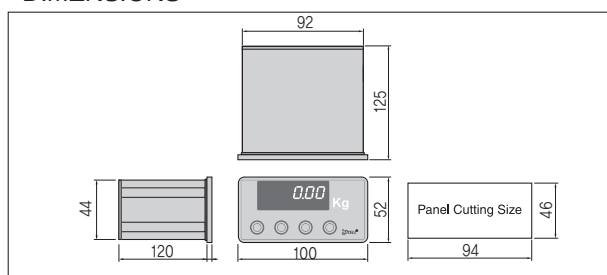
- OP-01 : RS-422
- OP-02 : RS-232 (Standard Installation)
- OP-05 : 4 $\sim$ 20mA (Analogue Output)
- OP-06 : 0 $\sim$ 10V (Analogue Output)

>RELAY MODE

	OUT1	OUT2	OUT3
Limit ("A" Dry)	Zero	SP2	SP1
Packer ("B" Dry)	Zero	SP2	SP1
Checker (Stable mode)	OK	High	Low
Checker (Range mode)	OK	High	Low

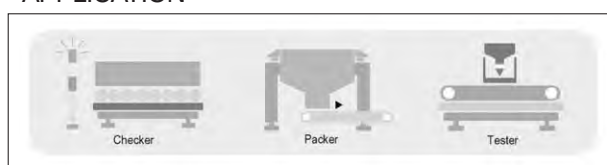
>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.

>APPLICATION



★Specifications are subject to change without notice.

Explosion Proof Indicator / EXP Remote Display

EXP 5000 Series

- Explosion Proof Indicator • WATCH-DOG circuitry
- Relay Output Mode : Limit, Packer, Checker
- Improved A/D Conversion speed : Max. 200times
- Fueling stations, liquid or gaseous
- Applications : Chemical plants (Packer/Checker) Fertilizer plants
- Classification code : Ex d B T6 Degree

>SPECIFICATIONS

Specifications	EXP-5300, EXP5410, EXP5420
Explosion Proof	EX IIB + H ₂ T ₆
Pressure Rating	Ex tD A ₂₁ IP65 T85°C
Format Specification	DIND-MI-EXP100
Load Cell Excitation	DC 10V (±5V)
Max. Signal Input Voltage	Max.32mV
A/D Resolution(Internal)	520,000 Count(19bit)
A/D Sampling Rate	Max. 200times / Sec
Option	OP1 : RS-422 / RS-485
	OP2 : 0~10V (V-out)
	OP3 : 4~20ma (I-out)
	OP4 : BCD IN
	OP5 : BCD OUT
Display Unit	7 segment, 6 digit Red FND



EXP-5300
(2 Step Control)



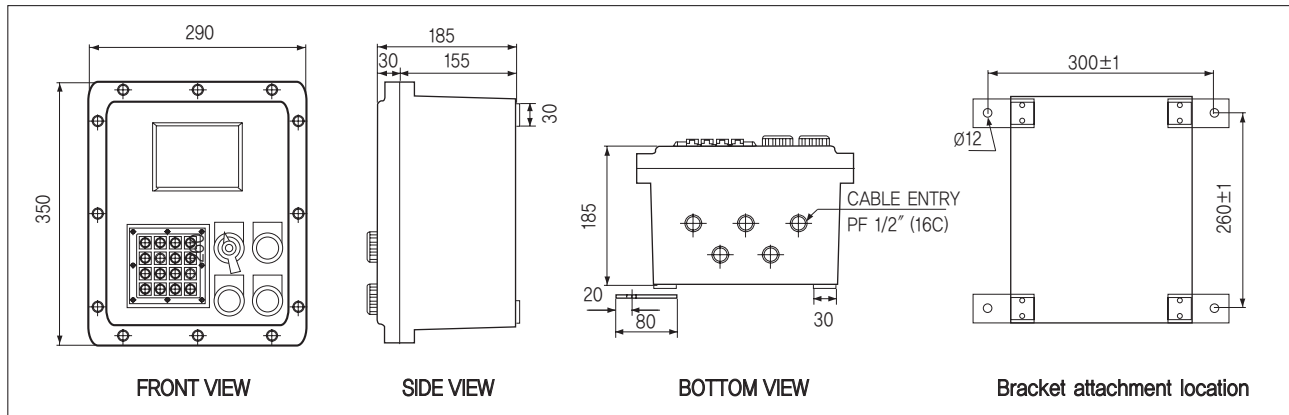
EXP-5410
(2 Step Control)



EXP-5420
(Supply 1 Step,
Discharge 2 Step)

>DIMENSIONS

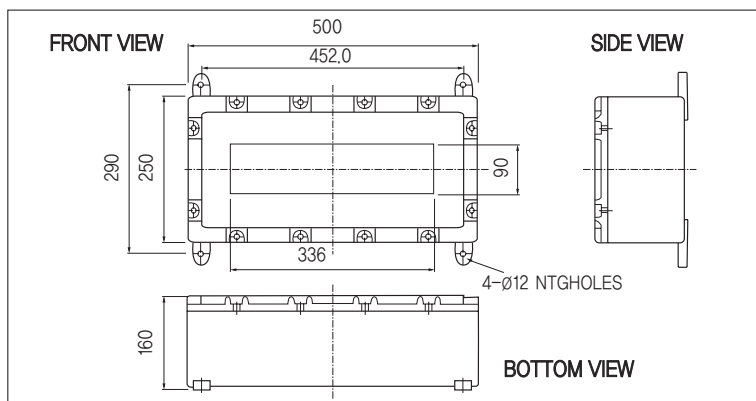
unit:mm



EXP REMOTE DISPLAY

>DIMENSIONS

unit:mm



>Model EXP900



★Specifications are subject to change without notice.

Explosion Proof Indicator / Summing Box

>Model DN-EXP520

- Explosion Proof Indicator
- Relay Output Mode : Limit, Packer, Checker
- WATCH-DOG circuitry
- Improved A/D Conversion speed : Max. 200times
- Fueling stations, liquid or gaseous
- Applications : Chemical plants (Packer/Checker) Fertilizer plants
- Classification code : Ex d B T6 Degree



>SPECIFICATIONS

Specifications	Accuracy
Input Sensitivity	0.2 μ V / Digit
Load Cell Excitation	DC 10V (- 5V ~ + 5V)
Max. Signal Input Voltage	Max.32mV
Temperature Coefficient	[Zero] $\pm$ 20PPM/ $^{\circ}$ C [Span] $\pm$ 20PPM/ $^{\circ}$ C
Input Noise	$\pm$ 0.6 μ V P.P
Input Impedance	Over 10M Ω
A/D Conversion Method	Sigma-Delta
A/D Resolution(Internal)	520,000 Count(19bit)
A/D Sampling Rate	Max. 200times / Sec
Nonlinearity	0.01% FS
Display Resolution(External)	1/20,000

Option

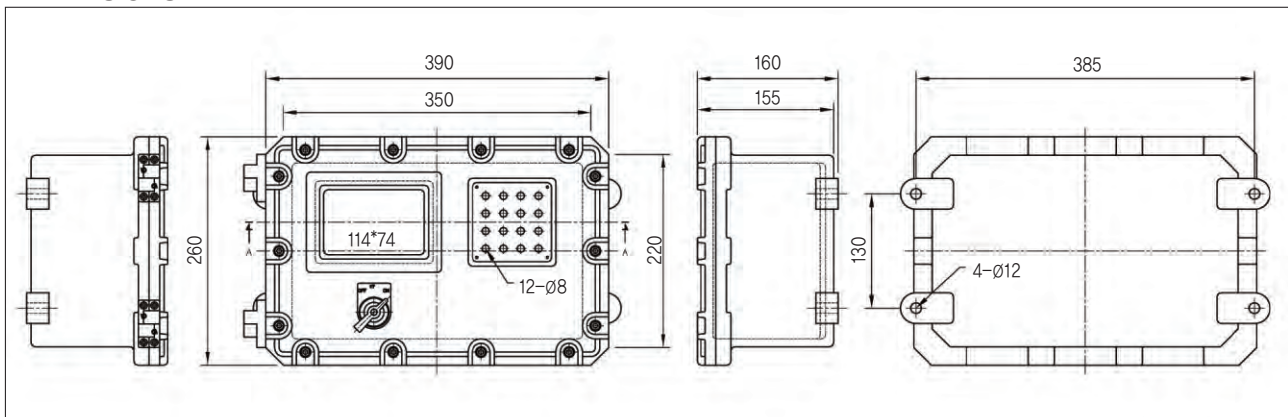
- ① Analog Out-put (V-out) : 0~10V, 0~5V
 ② Analog Out-put (I-out) : 4~20mA
 ③ Serial I / F : RS-422, RS-485
 ④ BCD In-put
 ⑤ BCD In-out
 ※ RS3232C and Current loop : Standard Installed

>RELAY MODE

Model	Out1	Out2	Out3	Out4	Out5	Out6
Limit ("A" Dry)	SP1	SP2	SP3	SP4	Finish	Zero
Packer ("B" Dry)	SP1	SP2	SP3	SP4	Finish	Zero
Checker 1 (Stable mode)	Low	High	OK	Low N.G	High N.G	Zero
Checker 2 (Range mode)	SP1	SP1<SP2	SP2<SP3	SP3<SP4	SP4<	Zero

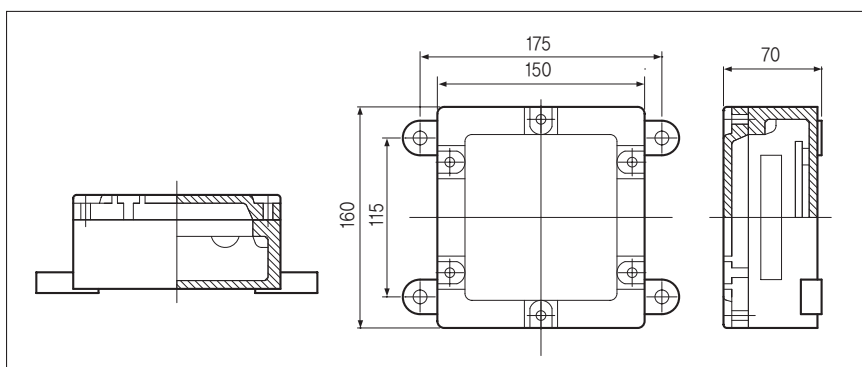
>DIMENSIONS

unit:mm



SUMMING BOX

>DIMENSIONS



>Model EXP-SB4P



★Specifications are subject to change without notice.

Pocket Indicator



>Model PDN-10

HAND-HELD TYPE.

The PDN-10 has been designed specifically to operate with strain gauge sensors such as Load cell, Pressure Transducer, LVDT, etc.

Pocket indicator with battery.

■ Feature

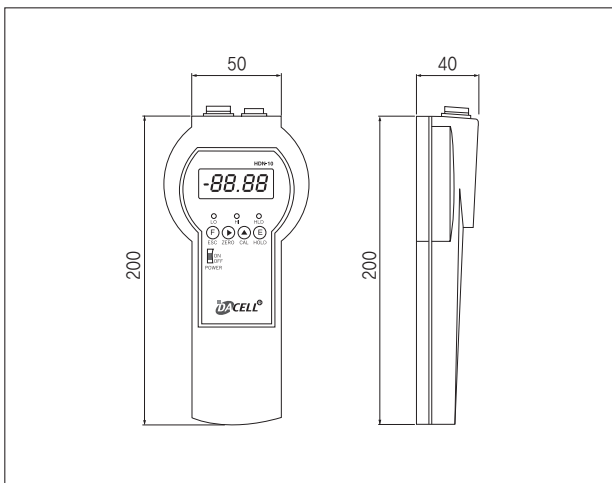
- Peak hold
- Auto Zero
- Measuring Data Saving (Max 500pcs.)
- Hi, Low Display LED

>SPECIFICATIONS

Specifications	Accuracy
Power Source	DC 1.5V *4EA (AAA size) battery
Electric current Consumption	15mA
LOAD CELL input range	1.0mV/V ~ 3.0mV/V, Potentiometer : 100~10K Ω
Display	4 1/2 Digit LCD
Characters displayed	-1999 ~ +1999
Display Speed	Approx. 10 times/sec
Decunak point Position	0, 0.0, 0.00, 0.000
A/D Sampling speed	100 times/sec
A/D Resolution	16 bit
Zero Adjust Range	100% F.S(AUTO ZERO)
Data storage	500 data can be memorised
Data output	RS232C Serial Interface

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.



>Model PDN-20

The PDN-20 has been designed specifically to operate with strain gauge sensors such as Load cell, Pressure Transducer, LVDT, etc.

Pocket indicator with rechargeable battery.

PEAK HOLD FUNCTION

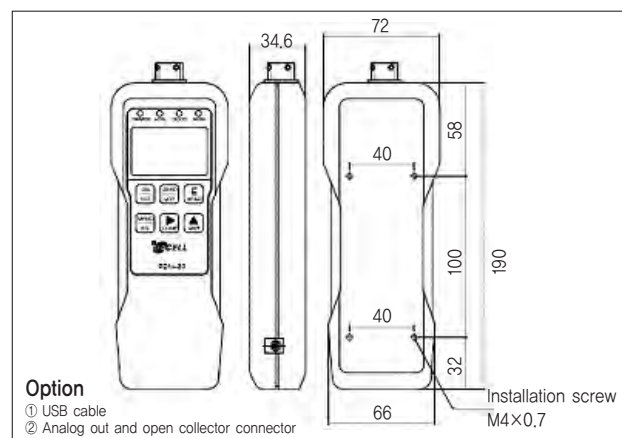
- $\pm$ NG, OK judgments with LED display(with open collector output)
- Connectable to computer through USB output cable (standard accessory)
- Display reverse function.
- Ergonomic, heavy-duty metal construction
- UNIT CONVERSION : N, kgf, lbf, ozf

>SPECIFICATIONS

Specifications	Accuracy
Usable Sensor	Strain gauge type sensor (Bridge 120 Ω , 350 Ω , 700 Ω)
Range of Indication	-99999 to +99999
A/D Transducer	16-bit, 100 times/sec
D/A Transducer	12-bit
Indication of Measuring Value	5 digits LCD, Right/reverse display available
Measuring Unit	Kgf, N, lbf, ozf
Condition indicating LED	Indication of charge and compare output condition
Compare Output	High, Low, Good
Analog Output	DC +/-1V
Communication Output	USB
Range of using temperature	-10 $^{\circ}$ C to 40 $^{\circ}$ C
Weight	Approximately 800g
Power	Nickel hydrogen (NimH), Chargeable Adapter (DC 9V)
Continuous Use Life	Approximately 40 hours
Charging Time	Approximately 8 hours

>DIMENSIONS

unit:mm



Option

- ① USB cable
- ② Analog out and open collector connector

Installation screw
M4 $\times$ 0.7

Pocket Indicator



>Model DN120

The DN-120 has designed specifically to operate with strain gauge sensors such as Fast – measurement of Load cell, Pressure Transducer, LVDT, etc. The setup sequence is simple and quick using four push buttons only. Quick sampling speed (100 times/sec).

- Simple outdoor using in use of battery.
- Using rechargeable battery.
- High resolving power(16bit A/D)
- High precision(more than 0.012% F.S) and stability.
- Quick sampling speed (100 times/sec)
- Peak hold function
- Comparison function(hi, low) ; open collector output
- Calibration of actual load and sensor output value
- Auto zero function

■Others

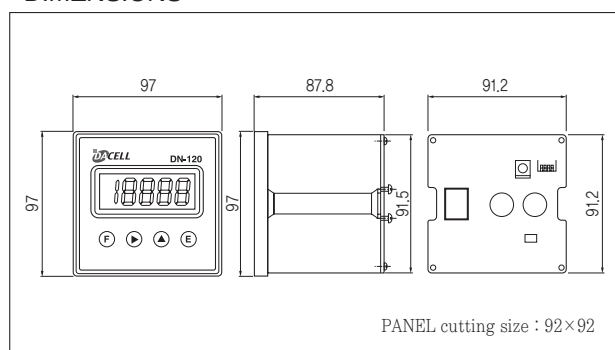
- Option : RS232C(OP-02), RS485(OP-03).

>SPECIFICATIONS

Specifications	Accuracy
Applicatin sensor	Strain gauge sensor (350Ω or 120Ω)
Sensor adjustment range	DC 5V
Zero adjustment range	100% F · S(Auto Zero)
Input signal	0 ~ 3mV/V
Display	±19999
Display speed	Appox 30times/sec(Adjustment available by buff setting)
Character height	7Segment 15mm
Decimal point	Random setting available
Sampling speed	Max 100 times/sec
Zero variation	within 0.01%/°C(1mV/V)
Sensitivity variation	within 0.01%/°C
Usage temperature range	-10°C ~ 60°C
Humidity	less than 80% RH(no dew condensation)
Power source used	DC 7.2V Recharging battery DC 12V Adapter
Weight	about 500g

>DIMENSIONS

unit:mm



Remote Display

>Large Display Series

- High brightness FND
- Easy to check the weight from far distance
- Wall mounting type
- Uniform brightness and Wide angle viewing

MR900



MR930



MR940



MR960



>SPECIFICATIONS

Model	MR900	MR930	MR940	MR960
Digits	5 DIGIT (99999)			
Size of digit(mm)	33(W) X 75(H)	43(W) X 76(H)	60(W) X 100(H)	87(W) X 150(H)
Size(inch)	2.3	3	4	6
Display	7 Segment high brightness FND			
Interface	RS-232C & CURRENT LOOP			
Dimensions	360(W) X 150(D) X 120(H)	500(W) X 155(D) X 155(H)	700(W) X 210(D) X 180(H)	850(W) X 205(D) X 205(H)
Weight(kg)	About 3.6	About 5.3	About 7.5	About 15.2
Power	AC 85 ~ 264V	AC 85 ~ 264C	AC 85 ~ 264V	AC 110 ~ 220V

★Specifications are subject to change without notice.

Over Load Limiter

>Model DN9000, DN9200

Load limiter: Controller for overload protection (KOSHA certified product).

Buzzer sounds when overloaded..

A ctual load calibration..

Easy installation and wiring.

■Feature

- A/D converter : 24bit, 1000times/sec.
- Output: OVER LOAD Alarm, Stop output, Contact Capacity AC 250V 5A
- Watch dog

■Option

- OP1 : RS232C
- OP2 : RS485
- OP3 : Analog 0 ~ 10V
- OP4 : Analog 4 ~ 20mA



DN9000



DN9200

■DN9000 : 1 channel load limiter

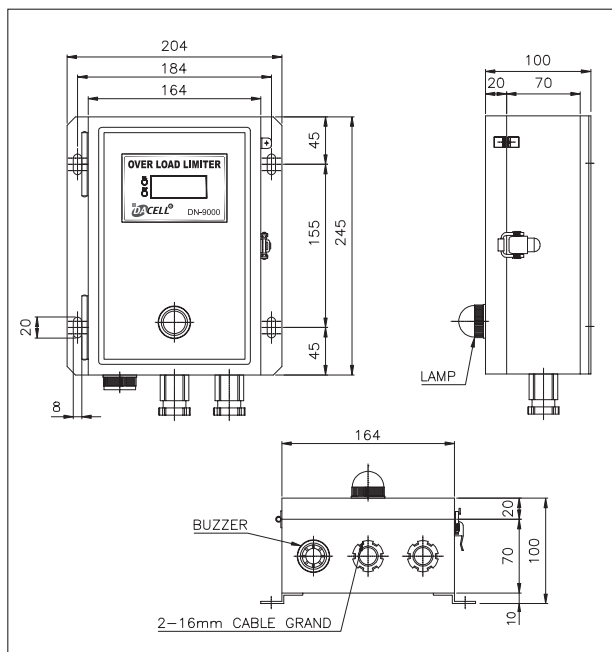
■DN9200 : 2 channel load limiter

>SPECIFICATIONS

Specifications	Accuracy
Application sensor	Strain gauge sensor (350Ω or 700Ω)
Sensor authorized voltage	DC 5V (350Ω x4 loadcells)
Zero adjustment range	100% F.S (Auto Zero)
Input signal	0.5 ~ 3mV/V
Display	-19999 ~ 99999
Character height	7 segment 5 Digit, (H) 14mm (DN9000) 7 segment 4 Digit, (H) 4mm(DN9200)
AD converter	16bit, 100 times/sec
D/A converter	12bit
Zero variation	within 0.5mV/°C
Sensitivity variation	within 0.01%/°C
Voltage output	DC 0~10V (4~20mA : in accordance with customer request)
Usage temperature range	-10°C~60°C
Power source used	220V 50/60Hz (110V available by internal operation)

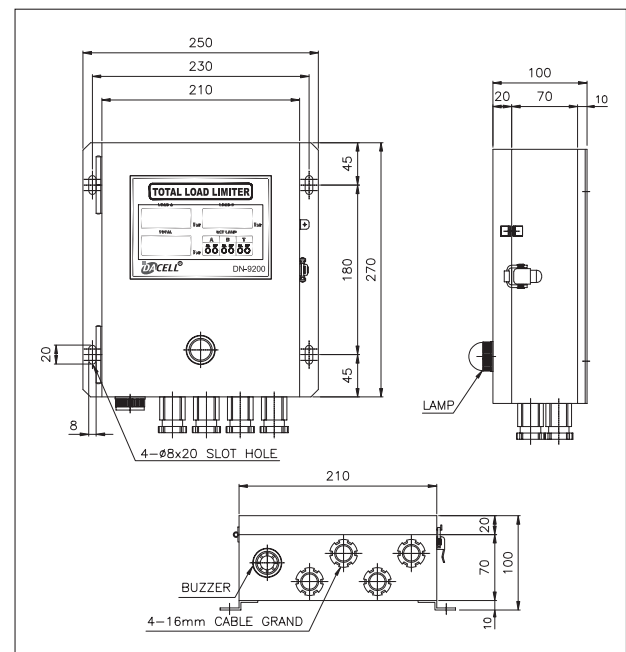
>DIMENSIONS

DN9000



DN9200

unit:mm



★Specifications are subject to change without notice.

Dynamic Strain AMPLifier



>Model DN-AM100

As dynamic strain amplifier, it is designed and manufactured to be suitable for instrumentation control panel.

- Built-in single step filtering function
- Built-in automatic temperature compensating circuit
- Easy to adjust zero and span by volume
- DN-AM100 : Load Cells and Torgue Sensors

>SPECIFICATIONS

Specifications	DN-AM100
Bridge voltage	Constant voltage DC 5V, 10V
Application sensor	Strain gauge sensor (350Ω or 120Ω)
Rated output	Voltage $\pm 10V$, Load resistance more than 200Ω Current 4~20mA, Load resistance less than 300Ω
Zero adjustment range	10%, 10 rotations
Sensitivity adjustment range	1500 Multiplier
S/N rate	51dB
Answering frequency	DC~20kHz (-3dB)
Low pass filter	10Hz, 100Hz, 1kHz pass
Nonlinearity	0.02% F.S
Usage temperature range	-10°C ~ 60°C
Allowed voltage variation rate	Supply power $\pm 5\%$
Voltage	AC 220V



>Model DN-ACM200

As AC amplifier, it is designed and manufactured to be suitable for instrumentation control panel.

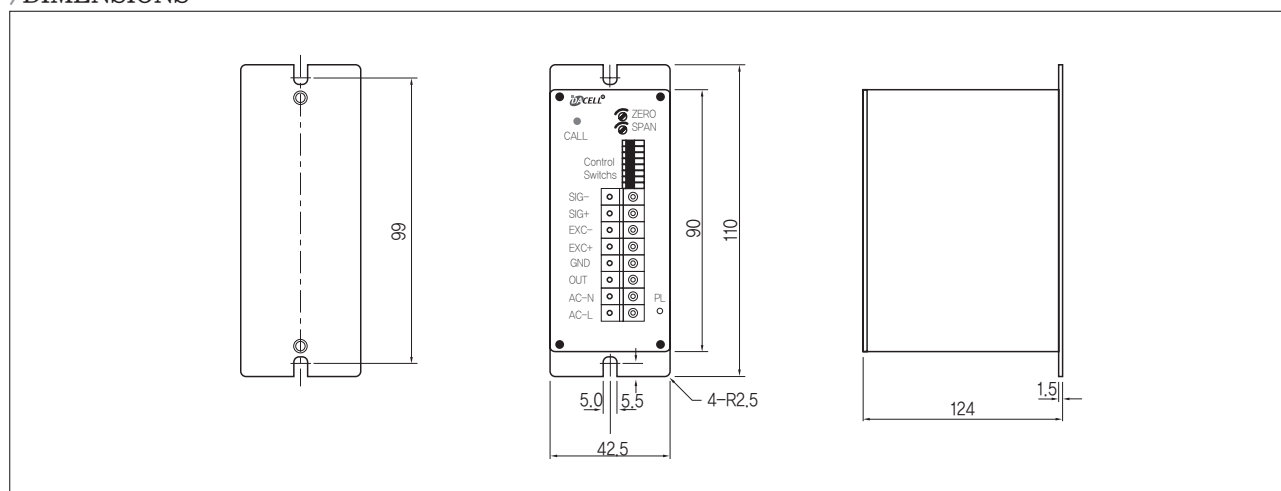
- Built-in single step filtering function
- Built-in automatic temperature compensating circuit
- Easy to adjust zero and span by volume
- DN-ACM200 : Torgue Sensor (Model TRC)

>SPECIFICATIONS

Specifications	DN-ACM200
Bridge voltage	AC 2Vrms 5kHz/10kHz
Application sensor	Differential trans TORQUEMETER (AC TYPE, TRC)
Rated output	Voltage $\pm 10V$, Load resistance more than 200Ω Current 4~20mA, Load resistance less than 300Ω
Zero adjustment range	10%, 10 rotations
Sensitivity adjustment range	1500 Multiplier
S/N rate	51dB
Answering frequency	500Hz
Low pass filter	10Hz, 100Hz, pass
Nonlinearity	0.1% F.S
Usage temperature range	-10°C ~ 60°C
Allowed voltage variation rate	Supply power $\pm 5\%$
Voltage	AC 220V

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.

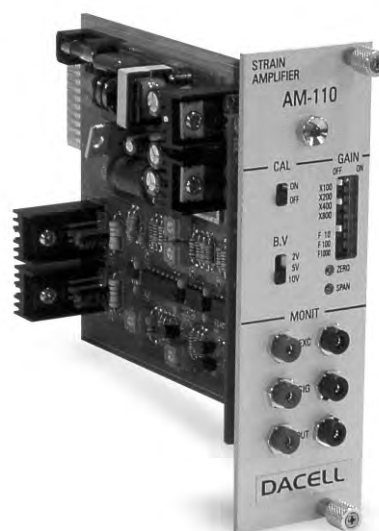
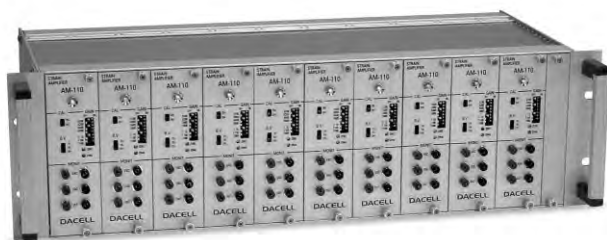
Dynamic Strain AMPLifier

>Model DN-AM110

As dynamic strain amplifier, it is designed and manufactured to be suitable for sub rack case.

Application sensor : Torque transducer, Load cell, strain gauge type sensors, mV output type sensors etc.

- Built-in single step filtering function
- Built-in automatic temperature compensating circuit
- Easy to adjust zero and span by volume



ORDERING INFORMATION

DN-AM110 ☐ - ☐

1. Voltage : 0~10V

2. Current : 4~2mA

• A : Strain gauge type

• B : Potentiometer voltage input

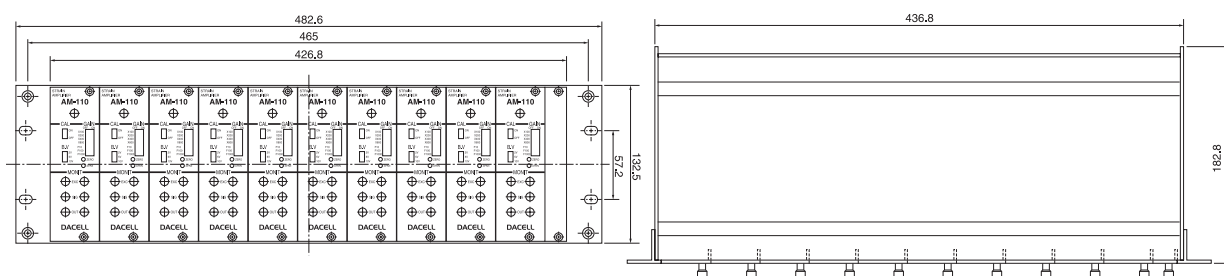
• C : AC input type

>SPECIFICATIONS

Specifications	DN-AM110
Bridge Voltage	Constant voltage DC2V, 5V, 10V
Application Bridge resistance	100Ω ~ 1kΩ
Rated output	Voltage ±10V, Load resistance more than 200Ω Current 4~ 20mA, Load resistance less than 300Ω
Zero adjustment ranger	10%, 10 rotations
Sensitivity adjustment range	1500 Multiplier
S/N rate	51dB
Answering frequency	DC~20kHz(-3dB)
Low Pass Filter	10Hz, 100Hz, 1kHz Pass
Nonlinearity	0.02% F.S
Operating temperature	-10 ~ +60℃
Power	AC85~265V, 50/60Hz

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.

Dynamic Strain AMPLifier



>Model DN-AM150

As dynamic strain amplifier, it is designed and manufactured to be suitable for instrumentation control panel.

■Feature

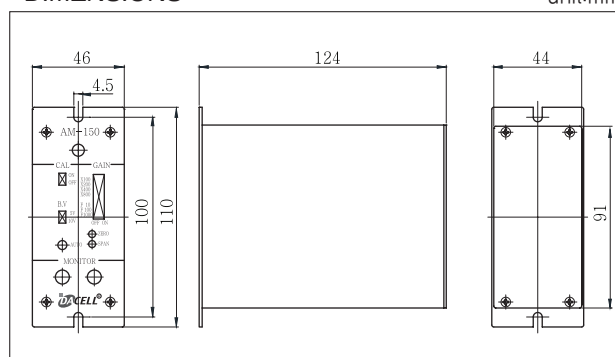
- Built-in single step filtering function
- Built-in automatic temperature compensating circuit
- Easy to adjust zero and span by volume
- One touch auto zero function

>SPECIFICATIONS

Specifications	Accuracy
Bridge voltage	Constant voltage DC 5V, 10V
Application bridge resistance	100Ω ~ 1kΩ
Rated output	Voltage ±10V (Load resistance more than 200Ω) Current 4 ~ 20mA (Load resistance less than 300Ω)
Zero adjustment ranger	10%, 10rotations
Sensitivity adjustment range	1500 Multiplier
S/N rate	51dB
Answering frequency	DC ~ 20kHz (-3dB)
Low Pass Filter	10Hz, 100Hz, 1kHz, Pass
Nonlinearity	±0.02% F.S
Usage temperature range	-10°C ~ 60°C
Humidity	less than 80% RH (no dew condensation)
Supply power	AC 220V 50/60Hz (AC 110V available by internal operation)

>DIMENSIONS

unit:mm



>Model DN-AM210

As dynamic strain amplifier, it uses single or SUB Rack case, and can be used as multi-channel.

It is used for strain gauge applied sensors, and strain measurement of potentiometer and mV output sensor and half and full bridge as high-level model.

■Feature

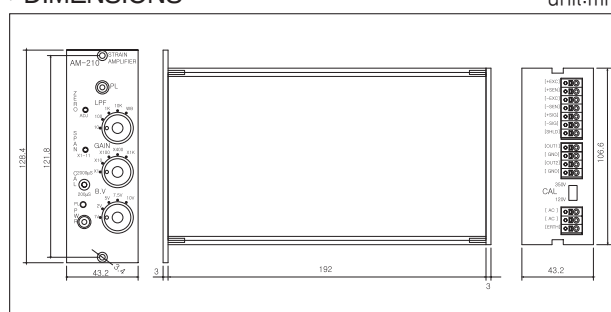
- Built-in automatic temperature compensating circuit
- Easy to adjust zero and span by volume
- Built-in single step adjustment function of Gain and LPF by rotary switch
- Bridge power supply built-out optional switch
- One touch auto zero function
- Built-in self calibration function

>SPECIFICATIONS

Specifications	Accuracy
Bridge voltage	Constant voltage DC 1V, 2V, 5V, 7.5V, 10V
Application bridge resistance	100Ω ~ 1kΩ
Rated output	Voltage ±10V (Load resistance more than 200Ω) Current 4 ~ 20mA (Load resistance less than 300Ω)
Zero adjustment ranger	10%, 10rotations
Gain (Max 1000)	Switch : 1, 10, 100, 400, 1000 times / Span : 1 ~ 11 times
S/N rate	54dB
Frequency response	DC ~ 20 kHz (-3dB)
Low Pass Filter	10Hz, 100Hz, 1kHz, 10kHz, WB
Nonlinearity	±0.01% F.S
Usage temperature range	0 ~ 60°C
Stability (temp. characteristic)	Sensitivity ±0.03%/°C
Humidity	Less than 80% RH (No dew condensation)
Supply power	AC 220V 50/60Hz (AC 110V available by internal operation)
Correction value	200μs, 2000μs (1000μsStrain = 0.5mV/V)

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.

Dynamic Strain AMPLifier



>Model DN-AM310

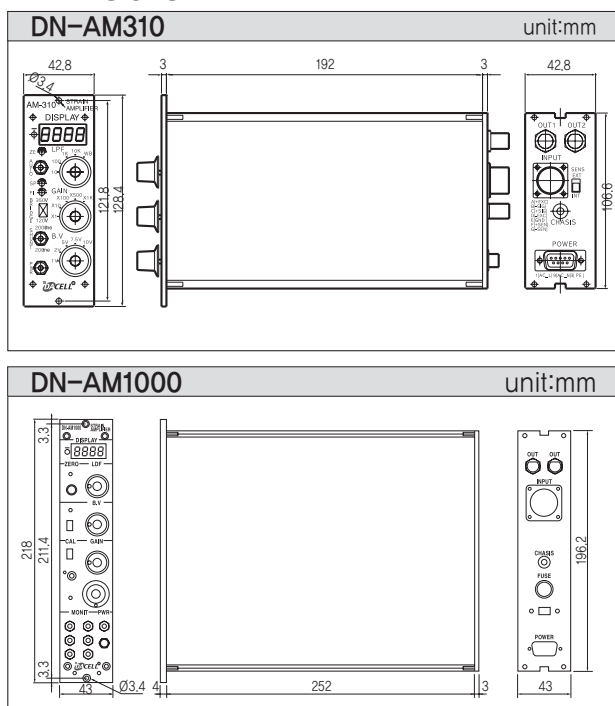
This amplifier, which microprocessor is integrated in, converts resistance differences to DC voltage and is widely used for the various sensors like a strain gage type load cell.

- Amplifier to convert strain gage signal from load cell to DC voltage
- Multi stage filter construction,
- The circuit compensated temperature automatically
- Zero adjustment by volume.
- Function control by rotary s/w
- Voltage display : 3½ digit

>SPECIFICATIONS

Specifications	Accuracy (DN-AM310)
Number of measuring point	1Point per each unit
Application gage resistance	100Ω ~1kΩ
Measuring range	10V~1mV~20mV/V, 5V~2mV~40mV/V, 2.5V~4mV~80mV/V
Bridge voltage(BV/V)	Constant voltage DC5V, 10V
Zero set range	Adjustment by 10 turns VR(10%)
Output	0~±10VDC(load resistance ≥ 200Ω), 4mA~20mA(load resistance ≤ 300Ω)
Nonlinearity	±0.01% F.S.
Sensitivity adjustment	1000 multiplier (Max 1000)
S/N ratio	51dB
Frequency Response	DC20kHz(−3dB), Option:DC100kHz
Low pass Filter	10Hz, 100Hz, 1kHz, 10kHz, pass
Operating temperature	−10°C~+60°C
Temperature sensitivity	±0.03% F.S./°C
Calibration	0.5, 1.0, 1.5, 2.0, 2.5 mv/v (0.5mv/v=1000u strain)
Display	Digit
Size	44.5(W)×128.4(H)×166(D)mm
Power	220V, 50/60Hz

>DIMENSIONS



★Specifications are subject to change without notice.



>Model DN-AM1000

The DN-AM1000 Series high precision, as the sensitivity dynamic signal amplifier independence or majority (Multi-channel) it will put in to the 19" rack case and it will be able to use and it is planned. The voltage signal which is output comes to become rate (GAIN) until 1~11000 boats, answer back frequency the maximum 100kHz, the Low Pass Filter is becoming at 10Hz~10kHz.

■Feature

- Fully adjustable calibrated gain from 1 to 11000
- Accepts all strain gage inputs (foil or piezoresistive), potentiometer, LVDT, etc.
- Bridge excitation from 1 to 10Vdc (5 steps)
- Input impedance above 1GΩ
- Four-frequency low-pass active filter (10 to 10kHz)
- Automatic bridge balance (±4000με)
- Double shunt calibration (120Ω, 350Ω, 2000με, 200με)
- Outputs voltage display (7-Segment 4-digits LED)
- SIZE & WEIGHT
- Size : 218(H) × 43(W) × 258(D)mm
- Weight : Approx. 1.2kg

■Connector

- Signal input : MS3112E 14–19S, MS3116F 14–19P
- Signal output : BNC connector

Specifications	Accuracy (DN-AM1000)
Excitation	5 steps : 1V, 2V, 5V, 7.5V, 10V Current : 170mA, max. Remote sense error : 0.0005%/Q at lead resistance (350Ω load) Noise and ripple : 0.05% p-p, max (dc 10kHz) Stability : ±0.02%/°C
Input	STRAIN GAUGE : quarter, half or full bridge (50 to 1000Ω), Built-in 120Ω and 350Ω dummy resistor TRANSDUCER : Piezoresistive strain gauge types, potentiometer, DCCT transducers displacement
Amplifier	1st Gain : ×1, ×10, ×100, ×400, ×1000 5steps (accuracy ±1%) 2nd Gain : ×1 to ×11 continuously variable Vernier multiplier : 10-turn counting knob with direct readout (×1 to ×11) Frequency response : 100kHz (−3dB), max. Input resistance : 1GΩ, differential or common mode Input capacitance : 4pF, differential or common mode Input voltage range : ±10V, differential mode 12V-(G/2×Vd), common mode (Vd=actual differential input voltage) Bias current : ±30nA, typical, each input Common-mode rejection (G=100) : 100dB, min, dc to 60Hz with 1KΩ source imbalance Stability (G<1000) : 5ppm/°C, max. Noise (G=100) : 0.01 to 10Hz, 0.3μVp-p R.T.I.
Filter	Characteristic : low-pass active 2-pole butterworth standard Frequencies (−3dB) : 10Hz, 100Hz, 1kHz, 10kHz, wide-band
Amplifier output (BNC connector)	Outputs : ±10V @100mA max. (out1); ±10V @10mA max. (out2)
Voltage display	Linearity : ±0.01% Display character : 7-Segment 4-digits LED Display range : 0.000V~±10.00V
Gain	5 steps Amplifier (×1, ×10, ×100, ×400, ×1000)
Frequency response	100kHz(−3dB), max.
Bridge balance	Auto ranging : ±4000με (2mV/V) Auto balance time : 1 second, typical Manual balance range : ±1V Storage : non-voltage data memory (EEPROM)
Low pass filter	4 steps 10Hz, 100Hz, 1kHz, 10kHz (−3dB)
Linearity	±0.01%
Stability	±0.01%/°C
Shunt calibration	Bridge resistance 120Ω : 200με and 2000με calibrations Bridge resistance 350Ω : 200με and 2000με calibrations
Input impedance	more than 1GΩ
Power	AC 110V or 220V (switch selected) 50/60Hz, 7.5watts 3-wirecode (2-wire : power / 1-wire : Ground)

Dynamic Strain AMPLifier

Digital AMPLifier



>Model DN-AM10A

As dynamic strain amplifier, it is designed and manufactured to be suitable for instrumentation control panel.

■Feature

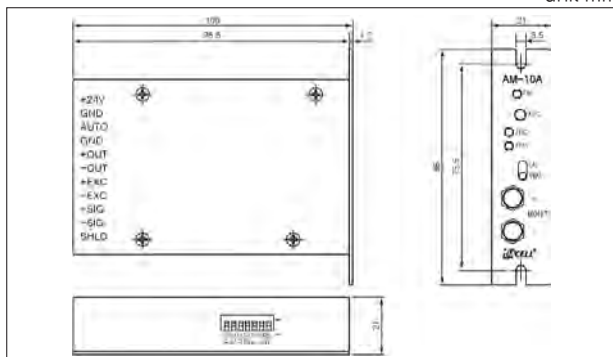
- Built-in single step filtering function
- Built-in automatic temperature compensating circuit
- Easy to adjust zero and span by volume

>SPECIFICATIONS

Specifications	Accuracy
Bridge voltage	Constant voltage DC 5V
Application bridge resistance	120Ω ~ 350Ω
Rated output	Voltage ±10V (Load resistance more than 200Ω) Current 4 ~ 20mA (Load resistance less than 300Ω)
Zero adjustment ranger	V/R(±0.1V), Auto zero(±2.5V)
Sensitivity adjustment range	Sensitivity ±10%
S/N rate	51dB
Answering frequency	DC ~ 10kHz
Low Pass Filter	10Hz, 100Hz, 1kHz, Pass
Nonlinearity	±0.02% F.S
Usage temperature range	-10°C ~ 60°C
Humidity	less than 80% RH (no dew condensation)
Supply power	AC 24V 0.15A

>DIMENSIONS

unit:mm



>Model GTSA-16

This amplifier has strain measurement and analog output function and more various functions and easy operation by built-in 5.6" TFT screen. Various signals from sensors are inputted and carry out an operation and indicate them to LCD screen and output analog signal ±10V.

■Feature

- Real data value and out voltage can be checked.
- Kind of sensor, sensor spec, deciaml points can be setted by touch screen.
- No need bridge box by Built-in 120Ω , 350 bridge circuit.
- 19" rack (3U) can be intalled.
- D/A offset and D/A span can be setted.
- 2channels per slot type
- Use both roud type connector or 5p Screw connector

>SPECIFICATIONS

Specifications	Accuracy
Number of channel	Max. 16 Channels (2, 4, 6, 8, 10, 12, 14)
Display	5.6" TFT touch LCD
Measure frequency	10kHz
Analog Output Hz	10kHz
Input sensors	1Gage & 2gage : 120Ω , 350Ω 4 Gage bridge sensor : 0.5mV/V - 100mV/V Potentiometer type sensor Voltage output type sensor ±10V
Strain input range	Gain 1000 : ±10,000 [uStrain] Gain 100 : ±100,000 [uStrain] Gain 10 : ±1,000,000 [uStrain]
Low Pass Filter	Selectable 10Hz, 100Hz, 1kHz by program
EXC Voltage	Selectable 2Volt , 5Volt , 10Volt by Program
A/D conversion	16bit 10,000 times/sec
D/A conversion	16bit 10,000 times/sec
Dimension	450(W) × 132(H) × 280(D) mm, 19" rack 3U size
Power	Free voltage AC85~264V , 50~60Hz

★Specifications are subject to change without notice.

Dynamic AMPLifier

>Model DN-AM120



- Waterproof amplifier: Strain gauge sensor
- Built-in single step filtering function
- Easy to adjust zero and span by volume
- Response frequency characteristic: DC ~ 20kHz
- Protection class: IP66, EN60529

>SPECIFICATIONS

Specifications	Accuracy
Bridge voltage	Constant voltage DC 5V, 10V
Application bridge resistance	100Ω ~ 1kΩ
Rated output	Voltage 0 ~ 10V (Load resistance more than 200Ω) Current 4 ~ 20mA (Load resistance less than 300Ω)
Zero adjustment ranger	10%, 10 Rotation
Stability (temp. characteristic)	1500 Multiplier
S/N rate	51dB
Frequency response	DC ~ 20kHz (-3dB)
Low Pass Filter	10Hz, 100Hz, 1kHz, Pass
Nonlinearity	0.02% F.S
Usage temperature range	-10°C ~ 60°C
Humidity	IP66, EN60529
Supply power	DC24V

>Model DN-AM130



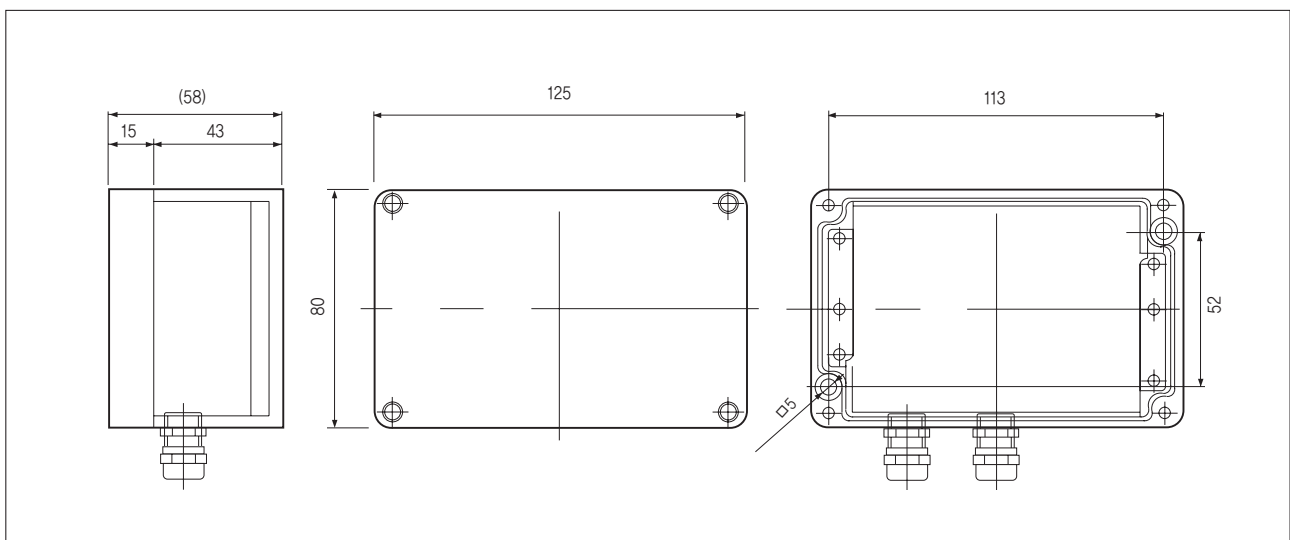
- This product is Dynamic Strain Amplifier of DC voltage control.
- Low price and waterproof type.
- One touch auto zero
- Real weight calibration

>SPECIFICATIONS

Specifications	Accuracy
Bridge voltage	Constant voltage DC 5V
Application bridge resistance	100Ω ~ 1kΩ
Rated output	Voltage 1~5V, 2~10V (Load resistance more than 200Ω) Current 4 ~ 20mA (Load resistance less than 300Ω)
Zero adjustment ranger	50% F.S
Stability (temp. characteristic)	1500 Multiplier
A/D Converter	12 bit, 100Hz
D/A Converter	12 bit, 100Hz
Low Pass Filter	100Hz
Nonlinearity	0.02% F.S
Usage temperature range	-10°C ~ 60°C
Humidity	IP66, EN60529
Supply power	DC24V

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.

Signal Conditioner



>Model DN-CN100

As signal conditioner, it was designed and manufactured to be suitable for instrumentation control panel. It is used for potentiometer, and signal converter DC voltage output transducer.

■Feature

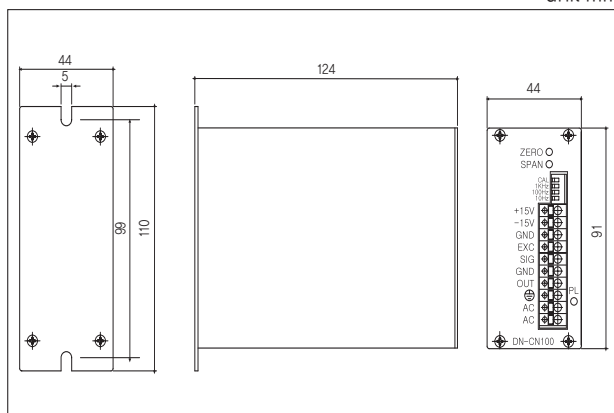
- Built-in single step filtering function
- Easy to adjust zero and span by volume
- Frequency response DC~10kHz

>SPECIFICATIONS

Specifications	Accuracy
Bridge voltage	Constant voltage DC 10V, $\pm 15V$
Application bridge resistance	1k Ω ~ 100k Ω
Rated output	Voltage 10V (Load resistance more than 200 Ω) Current 4 ~ 20mA (Load resistance less than 300 Ω)
Zero adjustment ranger	20%, 10 rotations
Stability (temp. characteristic)	20%, 10 rotations
Frequency response	DC ~ 10kHz (-3dB)
Low Pass Filter	10Hz, 100Hz, 1kHz, Pass
Nonlinearity	0.02% F.S
Usage temperature range	-10°C ~ 60°C
Humidity	Less than 80% RH (No dew condensation)
Supply power	AC220V 50/60KH(AC 110V available by internal operation)

>DIMENSIONS

unit:mm



Digital Indicator



>Model DN-20W

Pressure Transducer, LVDT, etc. The setup sequence is simple and quick using four push buttons only.

- High resolving power (16bit A/D)
- High precision (more than 0.012% F.S) and stability
- Quick sampling speed (100 times/sec)
- Built-in Shunt calibration switch
- Watch dog
- Calibration of actual load and sensor output value
- Peak hold and Sample hold
- Auto zero
- Small size (96×48×128mm)
- Weight : about 700g

■Option

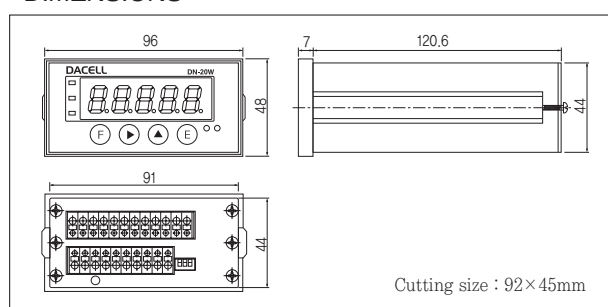
- OP-06 : Power 24VDC

>SPECIFICATIONS

Specifications	Accuracy
Application sensor	Pressure sensor, Linear Pontentiometer(LPS, CTP)
Sensor authorized voltage	DC 10V, 24V (Dip switch)
Zero adjustment range	100%F · S (Auto Zero)
Input signal	DC 0~5V, 0~10V, 4~20mA
Display	-19999 ~ 99999
Display Speed	Approx 30times/sec(Adjustment available by buff setting)
Character height	7Segment 5 digit LED 14mm
Decimal point	Random setting available
A/D converter	16bit, 100 times/sec
D/A converter	12bit
Zero variation	within 0.5 μ V/°C
Sensitivity variation	within 0.01%/°C
voltage output	DC 0~10V (4~20mA : in accordance with customer request)
Usage temperature range	-10°C~60°C
Humidity	Less than 80% RH (no dew condensation)
Power source used	220V 50/60Hz (110V available by internal operation)
Relay output	- Upper and lower limit comparison output • 4 relay output • Contact capacity : AC 250V 5A • Relay life time : more than 5,000,000 times
Network	RS-232C
Option	• BCD Paralle out (OP-01) • RS485 (OP-02)

>DIMENSIONS

unit:mm



Cutting size : 92×45mm

★Specifications are subject to change without notice.

Cable Extension Position Sensor



> Model CTP

- Measurement of moving distance, position, rotation angle level by using wire
- Widely applied to position control of various facilities and structures.
- It is a resistance output & Voltage output

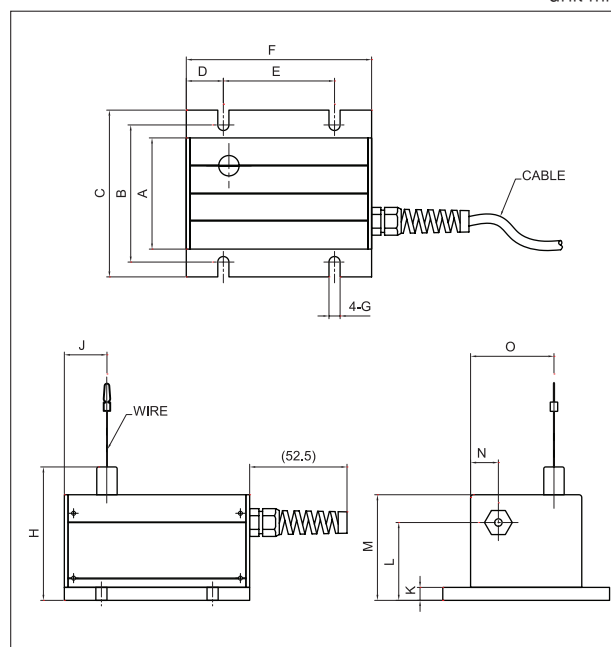
- ## >SPECIFICATIONS

Specifications

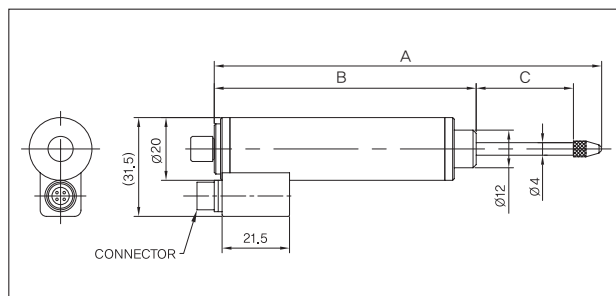
Specifications	Accuracy
Full stroke Range	0.5, 1, 2m
Output signal	voltage divider (Potentiometer)
Accuracy	±0.25% F.S
Repeatability	±0.02% F.S
Measuring cable	Ø0.45 stainless steel
Power supply	5V, 10V (max 24V)
Resistance range	0.5m (0 ~ 2.5kΩ), 1m (0 ~ 5kΩ), 2m (0 ~ 10kΩ)
Min.practical independent linearity	±0.15%, < 300Q, ±0.075%, ≥300Q
Dielectric strength	1,000V rms
Min.insulation resistance	1000MΩ
Maximum noise	100Q
Max.end voltage	0.25% of input voltage
Cable	Ø4 shield 3m



unit:mm



unit:mm



unit:mm

> DIMENSIONS TABLE

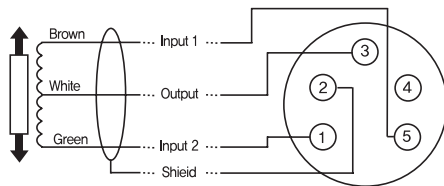
unit:mm

Stroke	A	B	C	D	E	F	G	H	J	K	L	M	N	O
0.5m~1m	60	74	90	20	60	100	6	72	23	7	42	57	15	45
2m	100	119	135	25	65	115	8.5	120.8	26.5	9	74	106	25	87

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>Model DP-S4, DP-10, DP-25

Various measuring range : $\pm 2\text{mm}$ to $\pm 12.5\text{mm}$
 Excellent resistance to workshop conditions
 High resolution & linearity



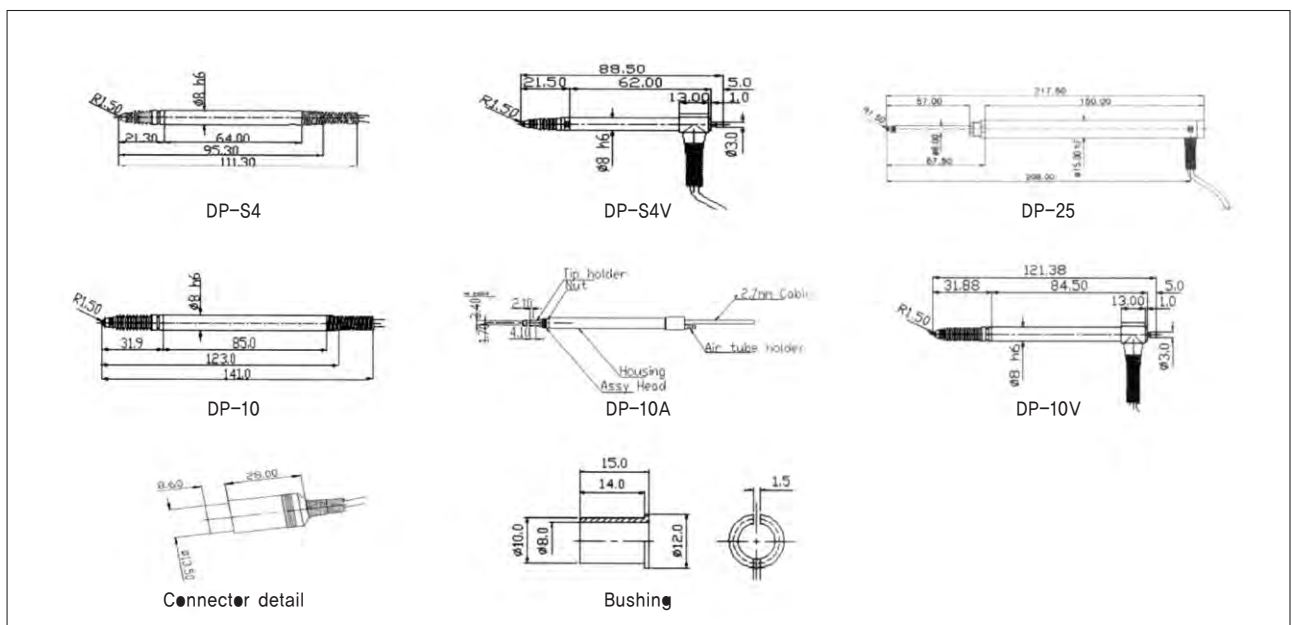
< Connection Details >



>SPECIFICATIONS

Model	DP-S4	DP-S4V	DP-10	DP-10V	DP-25
Plunger retraction	Standard	Vacuum	Standard	Vacuum	Standard
Stroke range	4.95mm		10.45mm		26mm
Measuring range	$\pm 2\text{mm}$		$\pm 4\text{mm}$		$\pm 12.5\text{mm}$
Repeatability	0.1 μm		0.5 μm		1.0 μm
Nonlinearity	0.1%(at the $\pm 1.0\text{mm}$)		0.1%(at the $\pm 3.0\text{mm}$)		0.3%(at the $\pm 8.0\text{mm}$)
Measuring Force	4~90g		30~80g		180g
Cable length	2.2m		3m		
External diameter	$\varnothing 8\text{mm}$				$\varnothing 15\text{mm}$
Mass(except cable unit)	Approx. 17g	Approx. 22g	Approx. 20g	Approx. 26g	Approx. 145g
Operating temp	0~40°C				

>DIMENSIONS



★Specifications are subject to change without notice.

LVDT Indicator

Electronic Micrometer



>Model DN25W

The product shows signal of differential trans displacement sensor (LVDT) into digital display and analogue output as indicator, and intermediate or high sampling (100 times/sec) and comparison output are available.

■Feature

- Best for measuring transformer type displacement sensor (LVDT)
- Rapid sampling speed (100 times/sec.)
- High resolving power (16bit A/D)
- High accuracy (over 0.02% F S) and stability
- One touch Auto zero (Display & Analog out zero)
- Calibration of measurement Standard
- Watch dog

■Feature

- Peak & sample hold
- Upper and lower limit comparison output
- NG, OK decision function
- 4 Relay (HH, HI, LO, LL) out
- Analog out (DAC)

■Option

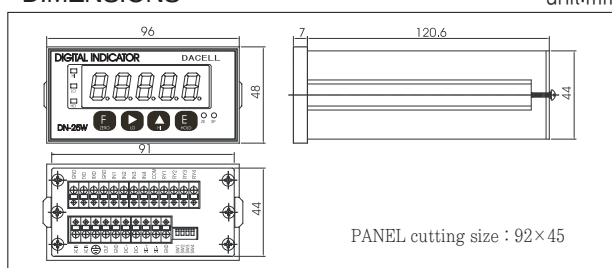
- OP-02 : RS-232C serial interface
- OP-03 : RS485 Multi drop interface

>SPECIFICATIONS

Specifications	Accuracy
Application sensor	Differential trans displacement sensor (LVDT)
Sensor authorized voltage	2Vrms, 4Vrms/5kHz, 10kHz
Zero adjustment range	100%F S (Auto Zero)
Display	-19999 ~ +99999
Display speed	Approx 30 times/sec
Zero variation	within 0.5 V
Sensitivity variation	within 0.01%
Voltage output	DC 0~10V (4~20mA available by internal operation)
Contact capacity	AC 85 ~ 265V 50/60Hz
Weight	about 800g

>DIMENSIONS

unit:mm



★Specifications are subject to change without notice.



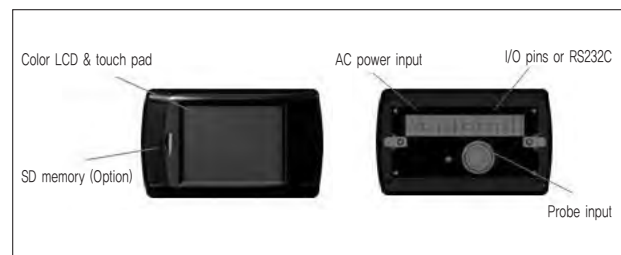
>Model ML-SP

1ch color TFT LCD type LVDT indicator.
User convenience enlargement by touch pad application
Various histogram offer,
high resolution/ high reliability
RS232C , I/O interface
Option : SD memory

>SPECIFICATIONS

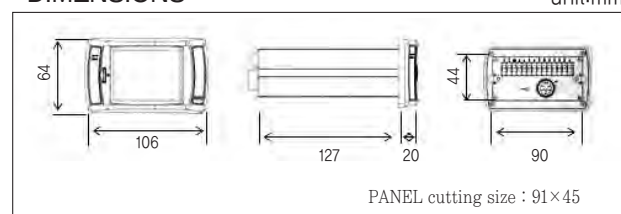
Specifications	Accuracy
Display	2.8" TFT color LCD with touch panel
Resolution	1/1000mm or 1/100mm
Direction	Selectable
Input channels	1ch
Dimension	W106 × H64 × D147mm / 4.17" × 2.52" × 5.79"
Data Communication	RS232C / RS485
Input / Output	11 pins I/O interface (2 inputs, 4 outputs of relay contact)
Power Input	AC100~220V 50Hz/60Hz
Power Consumption	4W
Operating temperature	0°C to 40°C / 32°F to 104°F
Storage temperature	-10°C to 50°C / 14°F to 122°F
Probe	DP-S4 series / DP-10 series / DP-25, ACT series / LVDT / Analog sensors

>COMPOSITIONS



>DIMENSIONS

unit:mm



Electronic Micrometer



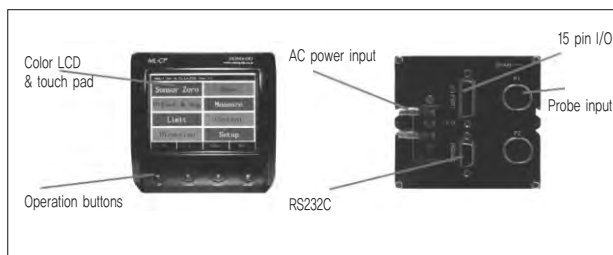
>Model ML-CP-S1~S4

4ch color TFT LCD type LVDT indicator.
User convenience enlargement by touch pad application
Various Measurement mode and histogram offer (+, -, average, max-min etc)
high resolution/ high reliability
RS232C, I/O interface

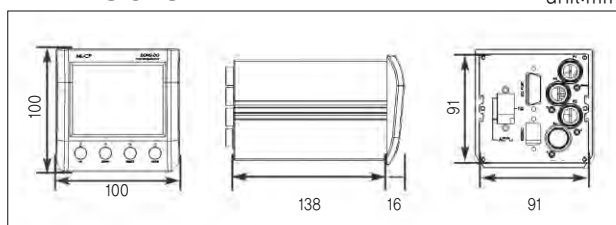
>SPECIFICATIONS

Model	DN-CP-S1	DN-CP-S2	DN-CP-S3	DN-CP-S4
Display	3.5" TFT color LCD with touch panel			
Resolution	1/1000mm or 1/100mm (Option 1/10000mm)			
Direction	Selectable			
Input Channels	1ch	2ch	3ch	4ch
Calculation Functions	none	+, -, average, max-min		
Dimensions	W100 × H100 × D160mm / 3.94" × 3.94" × 6.3"			
Data Communication	RS232C / RS485			
Input / Output	15 pin I/O interface (6 inputs, 5 outputs of relay contact)			
Power Input	AC100~220V 50Hz/60Hz			
Power Consumption	4.6W			
Operating temperature	0℃ to 40℃ / 32℉ to 104℉			
Storage temperature	-10℃ to 50℃ / 14℉ to 122℉			
Probe	DP-S4 series / DP-10 series / DP-25, ACT series / LVDT / Analog sensors			

>COMPOSITIONS



>DIMENSIONS



Dynamic Strain AMPLifier

>Model DN-ACM100

As dynamic strain amplifier, it is designed and manufactured to be suitable for instrumentation control panel.

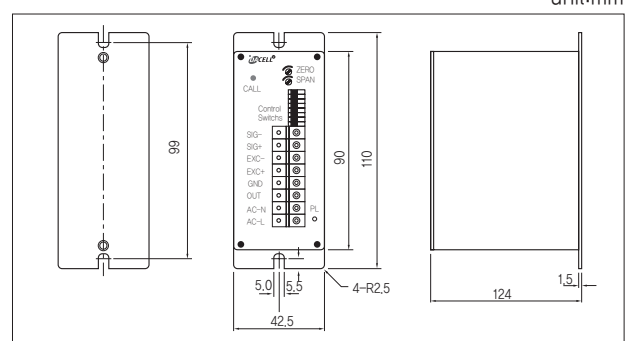
- Built-in single step filtering function
- Built-in automatic temperature compensating circuit
- Easy to adjust zero and span by volume
- DN-ACM100 : LUDT (DP Series)



>SPECIFICATIONS

Specifications	Accuracy
Bridge voltage	AC 2Vrms 5kHz/10kHz
Application sensor	Differential trans Torquemeter (AC TYPE, TRC)
Rated output	Voltage $\pm 10V$, Load resistance more than 200 Ω Current 4~20mA, Load resistance less than 300 Ω
Zero adjustment range	10%, 10 rotations
Sensitivity adjustment range	1500 Multiplier
S/N rate	51dB
Answering frequency	500Hz
Low pass filter	10Hz, 100Hz, pass
Nonlinearity	0.1% F.S
Usage temperature range	-10°C ~ 60°C
Allowed voltage variation rate	Supply power $\pm 5\%$
Voltage	AC 220V

>DIMENSIONS



>Model DN-AMP100

- AC Amplifier
- DP Series HBT sensor only
- Voltage 0 ~ 5V output
- Compact and low price
- Response frequency 3 kHz



>SPECIFICATIONS

Specifications	Accuracy		
Bridge voltage	DP series HBT sensor		
Application sensor	AC 2Vrms 5kHz/10kHz		
Rated output	DC0~5V		
Gain	AMP-100-A1	AMP-100-B2	AMP-100-C5
	DP-S4(V)1.25mm/μm	DP-10(V)0.5mm/μm	DP-250.312mm/μm
Input sensor terminal socket	DIN 5pin		
In/Out Voltage terminal conn.	D-SUB 9pin		
Voltage	DC+15V		

★Specifications are subject to change without notice.

Touch Type Data Logger

>Model GTDL-152

GTDL-152 is 4~6 channels dynamic & static strain measurement equipment which can monitor result and record data without PC by built-in touch screen and SD memory card. This data logger can be measured for static without PC because of has built-in SD memory and touch screen.

Strain rate can be measured after strain gage is wired, and strain gauge type sensors as like load cell, pressure sensor, torque sensor, LVDT and potentiometer can be measured. The data can be transmitted to PC easy through the front side USB port.



■Feature

- 4~6 channels static & dynamic data logger.
- Multi functions with touch screen and built-in data memory
- Built-in 120Ω, 350Ω bridge circuit
- Remove noise by low pass filter.
- Auto zero by auto zero button
- 1gage 3wire type, 2gage, 4gage bridge can be connected.
- Use both Tajimi and 5p Screw connector
- Small size, light weight and USB interface
- Provide Multiscan S/W

>SPECIFICATIONS

Specifications	Accuracy
Number of channel	4, 6 Channels
Measure frequency	1,000Hz
Display & Data memory	5.6" TFT touch LCD 4G SD DATA memory, USB memory stick port (EXT)
Input sensors	1Gage & 2gage : 120Ω, 350Ω 4 Gage bridge sensor : 0.5mV/V - 100mV/V Potentiometer type sensor Pt100 RTD Voltage output type sensor ±10V
Strain input range	Gain 1000 : ±10,000 [uStrain] Gain 100 : ±100,000 [uStrain] Gain 10 : ±1,000,000 [uStrain]
Low Pass Filter	Selectable 10Hz, 100Hz, 1KHz by program
EXC Voltage	Selectable 2Volt, 5Volt, 10Volt by Program
Interface	USB
Program	Multiscan S/W & Multiload S/W
Dimension	140(W) × 190(D) × 270(H) mm
Power	Free voltage AC85~264V, 50~60Hz

★Specifications are subject to change without notice.

Portable Type Data Logger

Dynamic Data Logger

>Model GTDL-H20

This data logger is portable and handy type strain measurement system that can measure 4 strain gauge bridge sensors, 1 gauge and 2 gauge. And 32" TFT touch screen, 4GB save memory, Lithium ion battery, USB charging and communication are built-in for multi fuction.



■Feature

- 4 channels static & dynamic data logger.
- Multi functions with touch screen and built-in data memory
- Built-in 120Ω, 350Ω bridge circuit
- Remove noise by low pass filter.
- Auto zero by auto zero button
- Use both Tajimi and 5p Screw connector
- Provide Multiscan S/W

>SPECIFICATIONS

Specifications	Accuracy
Display	3.2" TFT touch LCD
Internal battery	Lithium-ion 3.7V, 1800mAh
Input sensors	1Gage & 2gase : 120Ω , 350Ω 4 Gage bridge sensor : 0.5mV/V ~ 100mV/V Potentiometer type sensor Pt100 RTD
Internal data memory	4GByte data memory
Strain input range	±30,000 [uStrain]
A/D conversion	24 bit
A/D conversion speed	50 times/sec
Data save	4,000 point save
Interface	USB
Program	Miltiscan S/W & Multiload S/W
Demension	98(W) × 200(H) × 32(D) mm

>Model GTDL-350

GTDL-350 is 16 channels dynamic strain measurement equipment which connect with PC and display graph and record data.

Strain rate can be measured after strain gage is wired, and strain gauge type sensors as like load cell, pressure sensor, and torque sensor, LVDT and potentiometer, RTD and thermocouple, and voltage type sensor can be measured.

The data can be transmitted to PC easy through the front side USB port.



■Feature

- Max. 16 channel dynamic data logger.
- Real-time measurement by USB port
- 4 channels per slot type
- 1kHz frequency measurement by each channel
- Built-in 120Ω, 350Ω bridge circuit
- Remove noise by low pass filter.
- 16bit, 200kHz high efficient A/D converter
- Selectable both Tajimi or 5p Screw connector
- Provide Multiscan S/W

>SPECIFICATIONS

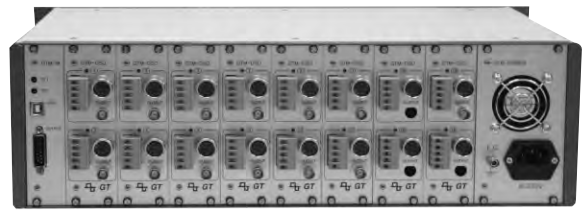
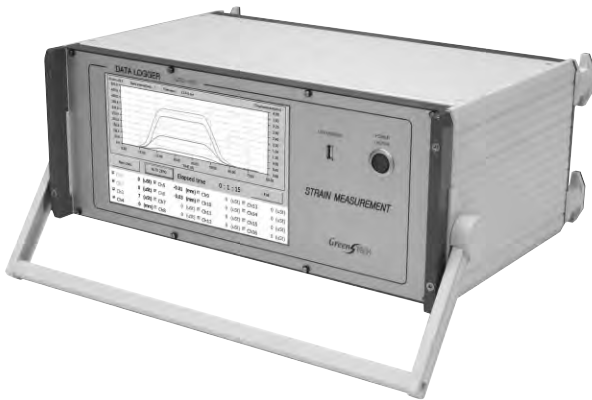
Specifications	Accuracy
Number of channel	Max. 16 Channels (4, 8, 12)
Measure frequency	1,000Hz
Connector for sensor	Selectable 5p screw connector or Tajimi
Input sensors	1Gage & 2gase : 120Ω, 350Ω 4 Gage bridge sensor : 0.5mV/V ~ 100mV/V Potentiometer type sensor Pt100 RTD, Thermocouple (J, K, T, E, R, S) Voltage output type sensor ±10V
Strain input range	Gain 1000 : ±10,000 [uStrain] Gain 100 : ±100,000 [uStrain] Gain 10 : ±1,000,000 [uStrain]
Low Pass Filter	Selectable 10Hz, 100Hz, 1KHz by program
Interface	USB
Program	Multiscan S/W & Multiload S/W
Dimension	260(W) × 190(H) × 270(D) mm
Power	Free voltage AC85 ~ 264V, 50 ~ 60Hz

★Specifications are subject to change without notice.

Touch Type Data Logger

>Model GTDL-610

GTDL-610 is 4~32 channels dynamic & static strain measurement equipment which can monitor result and record data without PC by built-in touch screen and SD memory card. This data logger can be measured for static without PC because of has built-in SD memory and touch screen, Strain measured after strain gage is wired, and strain gauge type sensors as like load cell, pressure sensor, torque sensor, LVDT and potentiometer can be measured. The data can be transmitted to PC easy through the front side USB port.



■Feature

- Max. 32 channels static & dynamic multi functions data logger.
- 10" large touch screen and built-in 16G SD memory
- 4 chs per slot type
- Remove noise by low pass filter.
- Auto zero by auto zero button
- Selectable both Tajimi or 5p Screw connector
- Real-time measurement by Multiscan S/W through USB port

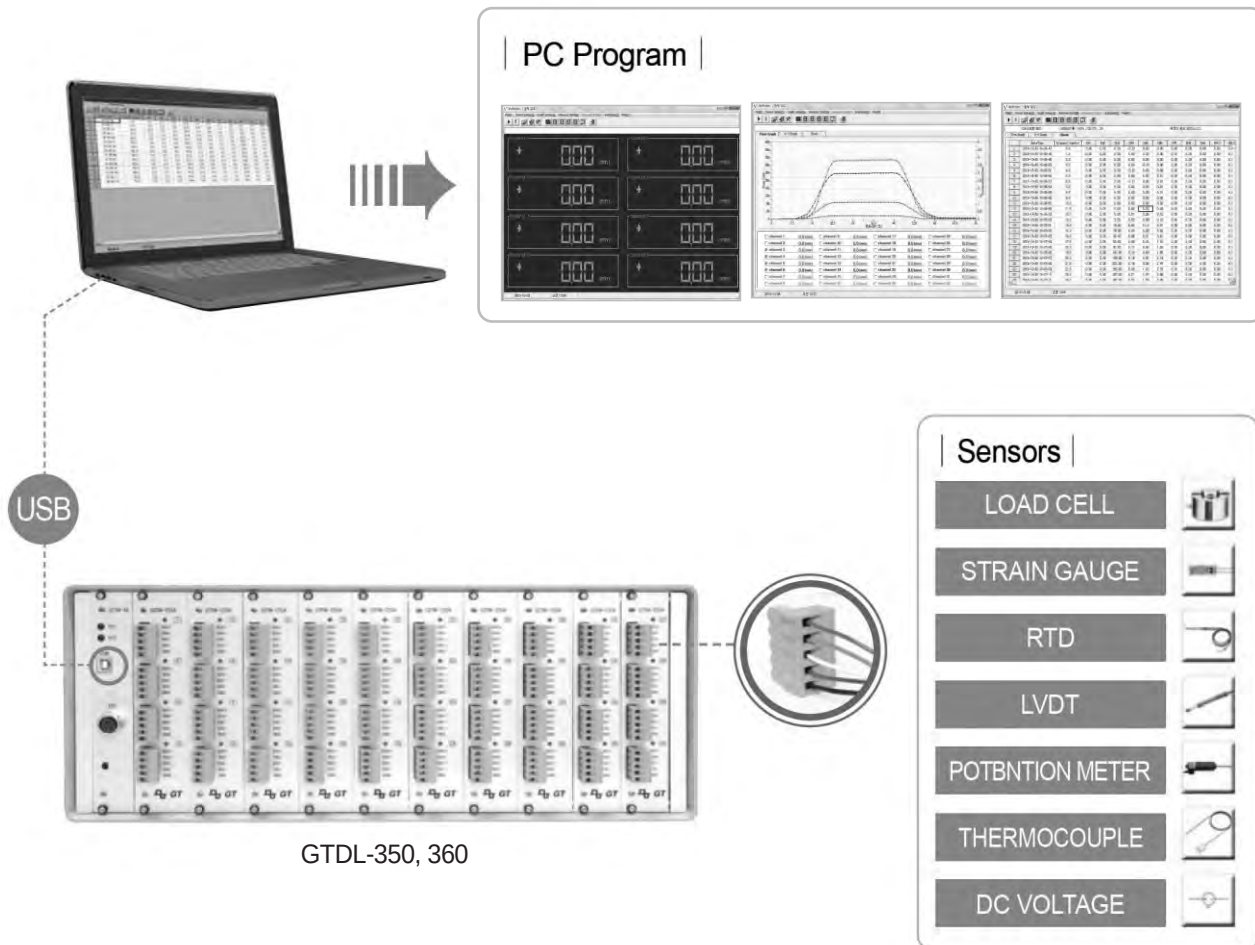
>SPECIFICATIONS

Specifications	Accuracy
Number of channel	Max. 32 Channels (4, 8, 12, 16, 20, 24, 28)
Measure frequency	1,000Hz
Display & Data memory	10.2" TFT touch LCD 16G SD DATA memory, USB memory stick port (EXT)
Connector for sensor	Selectable 5p screw connector or Tajimi
Input sensors	1Gage & 2gage : 120Ω, 350Ω 4 Gage bridge sensor : 0.5mV/V - 100mV/V Potentiometer type sensor Pt100 RTD, Thermocouple (J, K, T, E, R, S) Voltage output type sensor ±10V
Strain input range	Gain 1000 : ±10,000 [uStrain] Gain 100 : ±100,000 [uStrain] Gain 10 : ±1,000,000 [uStrain]
Low Pass Filter	Selectable 10Hz, 100Hz, 1KHz by program
EXC Voltage	Selectable 2Volt, 5Volt, 10Volt by Program
Interface	USB
Program	Multiscan S/W & Multiload S/W
Dimension	450(W) × 180(D) × 310(H) mm
Power	Free voltage AC85~264V, 50~60Hz

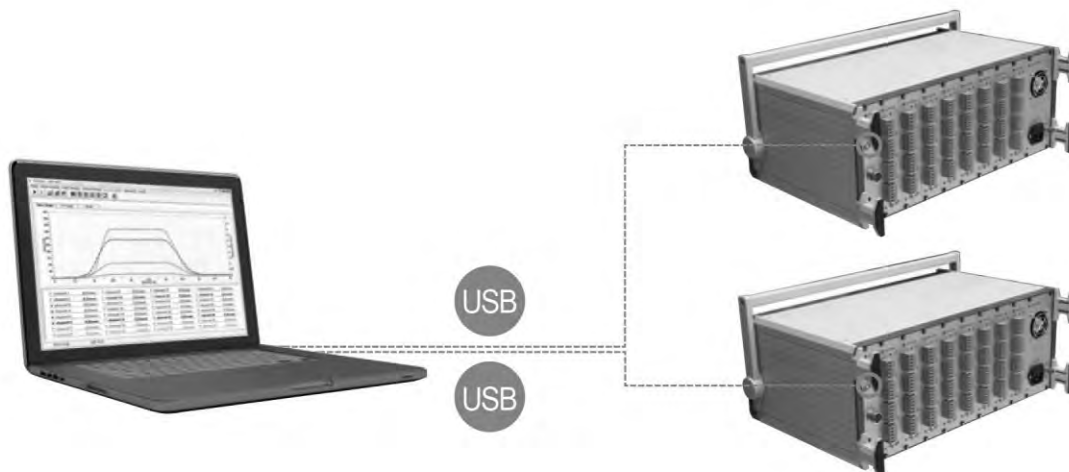
★Specifications are subject to change without notice.

Data Logger Layout

>Layout



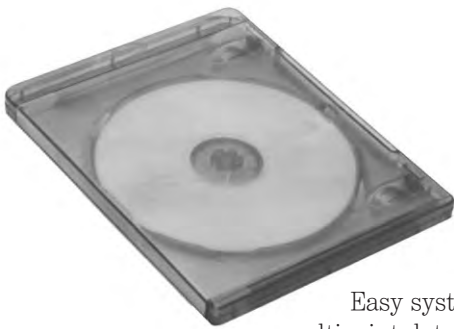
>Sensor setting



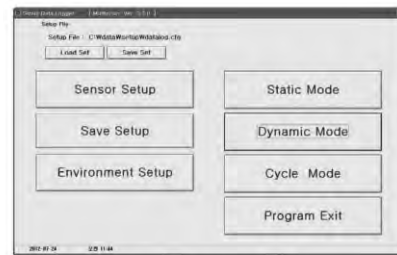
Data Logger Software

>Multiscan & Multiload Program

Multiscan program is dedicated software to connect PC and data logger with USB communication. Multiload program is data analysis software. Real-time measurement is possible with only USB cable connection without additional device.



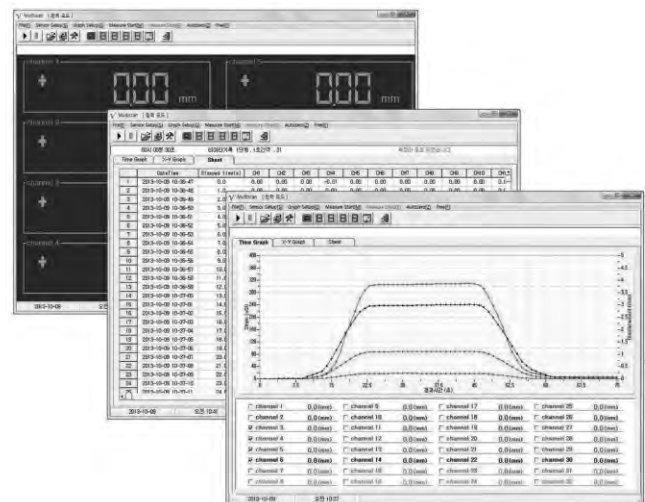
Easy system and channel configuration
multipoint data logger USB 2.0



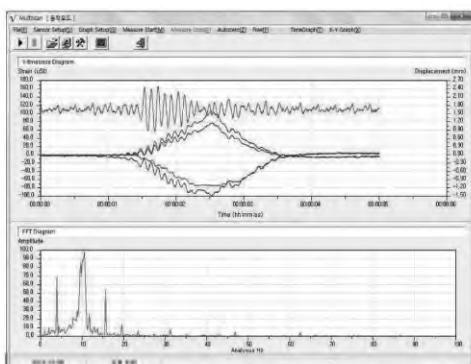
>Sensor setting

Class	Information	Status	Sensor type	Dis. point	Unit	Mode	Capacity	R.O (mV)	G.F	Graph Axis	L.P Filter	Adj.A	Adj.B
81	channel 1	OK	40Age (Sensor)	000.00	μV	Measure	50	2		Load	10Hz	1	0
82	channel 2	OK	40Age (Sensor)	000.00	μV	Measure	50	2		Load	10Hz	1	0
83	channel 3	OK	40Age (Sensor)	000.00	μV	Measure	50	2		Load	10Hz	1	0
84	channel 4	OK	40Age (Sensor)	000.00	μV	Measure	50	2		Load	10Hz	1	0
85	channel 5	OK	40Age (Sensor)	000.00	μV	Measure	50	2		Load	10Hz	1	0
86	Strain 1	OK	10Gage 120Ω	00000	μStr	Measure			2	Strain	10Hz	1	0
87	Strain 2	OK	10Gage 120Ω	00000	μStr	Measure			2	Strain	10Hz	1	0
88	Strain 3	OK	10Gage 120Ω	00000	μStr	Measure			2	Strain	10Hz	1	0
89	Strain 4	OK	10Gage 120Ω	00000	μStr	Measure			2	Strain	10Hz	1	0
90	Strain 5	OK	10Gage 120Ω	00000	μStr	Measure			2	Strain	10Hz	1	0
91	DISP 1	OK	40Age (Sensor)	000.00	mm	Measure	50	5		Displacement	10Hz	1	0
92	DISP 2	OK	40Age (Sensor)	000.00	mm	Measure	50	5		Displacement	10Hz	1	0
93	DISP 3	OK	40Age (Sensor)	000.00	mm	Measure	50	5		Displacement	10Hz	1	0
94	DISP 4	OK	40Age (Sensor)	000.00	mm	Measure	50	5		Displacement	10Hz	1	0
95	DISP 5	OK	40Age (Sensor)	000.00	mm	Measure	50	5		Displacement	10Hz	1	0
96	TEMP	OK	Pt 100	0000.0	°C	Measure				Temperature	10Hz	1	0

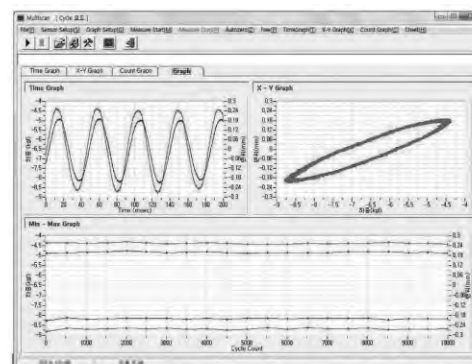
>Static mode measurement



>Dynamic mode measurement



>Cycle mode measurement



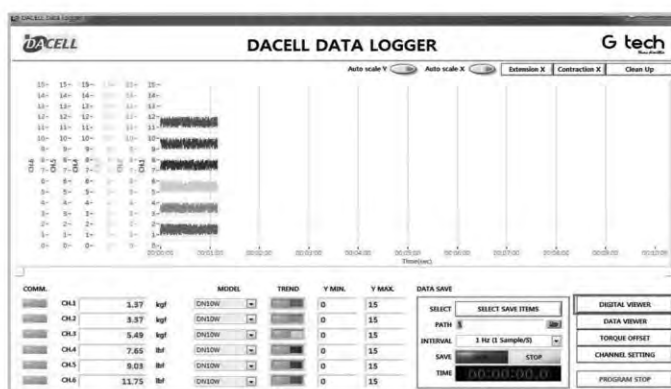
Indicator PC Program

- Held by a variety of programs.
- Appropriate development program at the production site.
- Using a variety of features and convenient.
- Printing function, operation, and records, data and statistics.

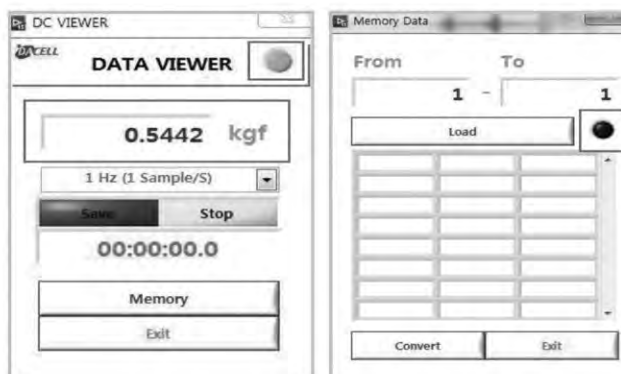
➤ Tester Weighing Program

CH.1	1.5618	kgf
CH.2	3.2058	kgf
CH.3	5.0397	kgf
CH.4	7.7805	lbf
CH.5	9.8071	lbf
CH.6	11.665	lbf

EXIT



➤ DN-FGA, PDN20 Program



➤ Truck Scale Program



Digital Pressurization Gauge

>Model CMT & PDN20

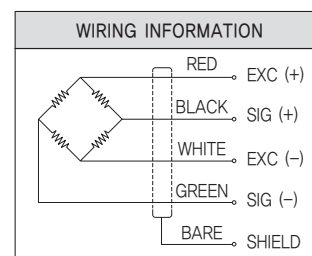
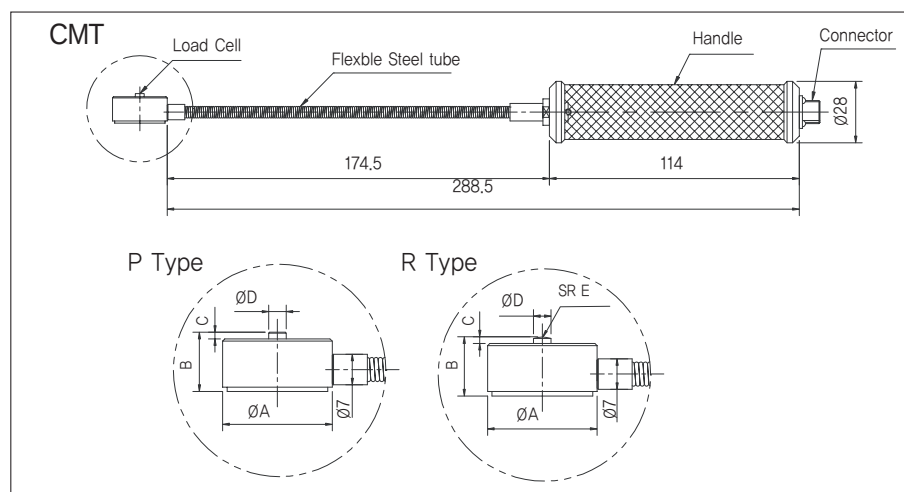
Portable calibrator

To measure electrode force precisely with ease

This compact unit measures electrode force, one of three major factors on welding, accurately and easily.

Function

- PEAK HOLD FUNCTION - AUTO ZERO
- Relay output (hi,low) - AUTOMATIC POWER OFF



>SENSOR (CMT)

Model	CMT-500P/R	CMT-100P/R	CMT-20P/R
Measuring Range	0-4900N (0-500kgf)	0-980N (0-100kgf)	0-196N (0-20kgf)
Critical Load	7350N (750kgf)	1470N (150kgf)	294N (30kgf)
Sensing Error	≤±2% (of full scale)	≤±2% (of full scale)	≤±2% (of full scale)

>MAIN BODY (Indicator)

Model	PDN20
Power Source	Rechargeable battery
Display (LCD)	5 digit, UNIT CONVERSION(kgf, N, lbf)
Zeroing Adjustment	Automatic regulation by auto-zero-switching
Hold Function	Peak-holding
Output	RS232C(USB output)

>APPLICATION



>DIMENSIONS TABLE

unit:mm

	ØA	B	C	ØD	E(R Mole)
CMT-20 P/R (0~20 kgf)	20	11	1.5	4	4
CMT-100 P/R (0~100 kgf)	25	12	1.5	4	6
CMT-500 P/R (0~500 kgf)	25	13.5	1.5	4	6

★Specifications are subject to change without notice.

Force Gauge

>Model DN-FGA

The DN-FGA has its own characters, with facility, high resolution, which can be used for simple measurement of tension/compression force, switch test, connector insertion/withdraw test, fracture test and push pull testing equipment in a new generation.

EASY OPERATION

Buttons are well arranged for easy operation to perform multipurpose measurement.

PEAK HOLD FUNCTION

±NG,OK judgments with LED display(with open collector output)
connectable to computer through USB output cable (standard accessory)
Display reverse function.

UNIT CONVERSION

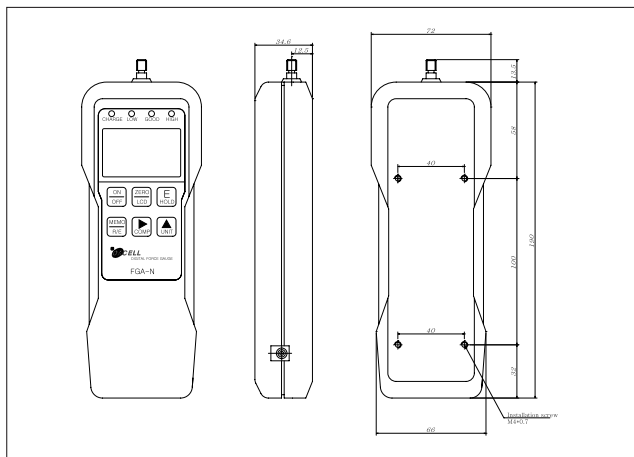
N, kgf, lbf, ozf

Ergonomic, heavy-duty metal construction

Full set of accessories, AC charger/adaptor and carrying case



>DIMENSIONS



>FGA-K500 ~ T1



>MANUAL TEST STAND



Model : DSR

>SPECIFICATIONS

(UNIT : kg)

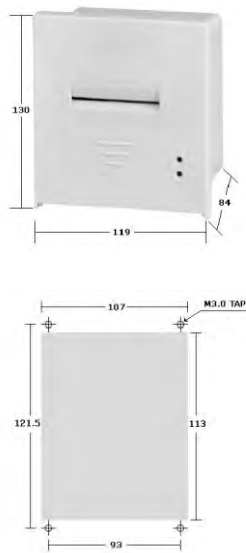
Model	FGA-K2	FGA-K5	FGA-K20	FGA-K50	FGA-K100	FGA-K500	FGA-T1
Capacity	2,000kg	5,000kg	20,00kg	50,00kg	100,0kg	500,0kg	1000,0kg
Min load	0,001kg	0,001kg	0,01kg	0,01kg	0,05kg	0,1kg	0,2kg
Sensor conformation	Sensor Inside					Sensor Outside	
Measuring accuracy	±0.2% FS						

★Specifications are subject to change without notice.

>Mini printer

Industrial weighing Applications,
Panel mount Type , compact/simple design, High and Clear printing.

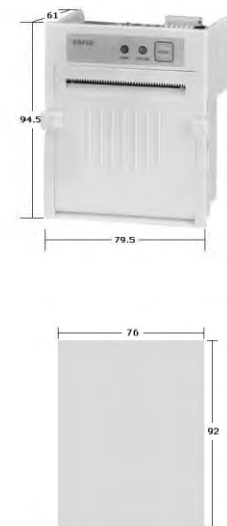
>Model YJ350T(Thermal printer) YJ350D(Dot printer)



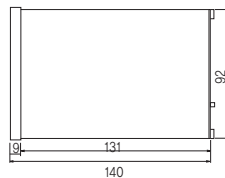
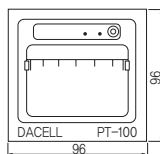
>Print Sample (YJ350)



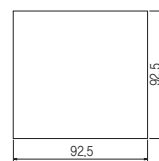
>Model YJ320T Thermal printer - Time, date printout (Option)



>Model PT100



Cutting size unit:mm



>Print Sample (PT100)



>SPECIFICATIONS (Model : TRC)

Model	YJ350T	YJ350D	YJ320T	PT100
Print System	Thermal type	Impact Dot Matrix	Thermal type	Thermal type
Print Speed	60mm/sec	1.6 LPS	60mm/sec	50mm/sec
Character	24 / 32 / 36 / 42 Columns	24 / 30 / 40 Columns	24 / 32 / 36 / 42 Columns	40 Columns
Ribbon Color		ERC-09		
Paper	Thermal Roll Paper 57(W) X 50(dia)	Roll Paper 57(W) X 50(dia)	Thermal Roll Paper 57(W) X 50(dia)	Thermal Roll Paper 57mm
Interface	RS-232C Serial / Parallel			RS232C (300bps ~ 12kbps)
Conditions	① Temperature : ±5℃ ~ 35℃			② 10% ~ 60% RH
Dimension(H×D×W)mm	119 X 84 X130		79.5 X 61 X 94.5	97 X 97 X 141
Power	+12/24 VDC1.5A (External Adapter Option)		+12/24 VDC 1.5A or 5 VDC 2.5A(Optional)	AC 85 ~ 265V 50/60Hz

★Specifications are subject to change without notice.

Summing Box

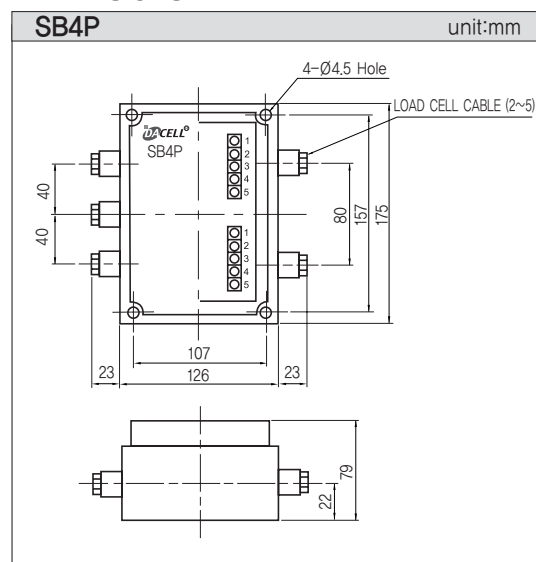
SUMMING BOX

>Model SB4P

Load cell 2 to 4 single cell
 Trimming – Individual cell,
 excitation trim 0~20 ohms
 Potentiometers – 20 ohms,
 20-turn cerment 100ppm
 Cable Fitting – input $\varnothing 5 \sim \varnothing 8$
 output $\varnothing 5 \sim \varnothing 10$
 Enclosure – ABS(Acrylnitrile Butadiene Styrene) cast, IP67



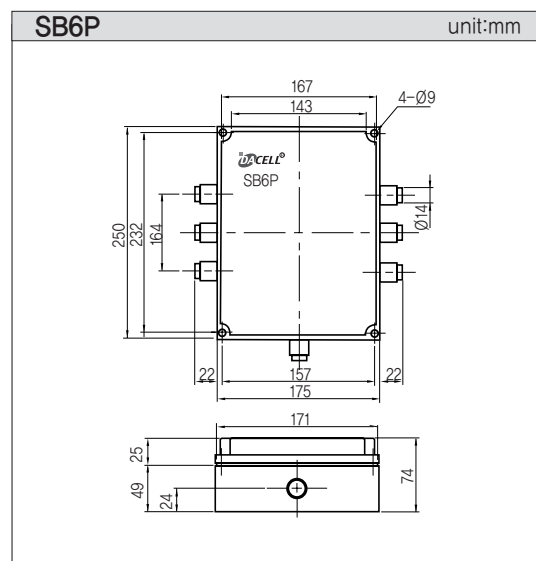
>DIMENSIONS



SUMMING BOX

>Model SB6P

Load cell 2 to 6 single cell
 Trimming – Individual cell,
 excitation trim 0~20 ohms
 Potentiometers – 20 ohms,
 20-turn cerment 100ppm
 Cable Fitting – input $\varnothing 5 \sim \varnothing 10$
 output $\varnothing 5, \varnothing 9 \sim \varnothing 12$
 Enclosure – ABS(Acrylnitrile Butadiene Styrene) cast, IP67

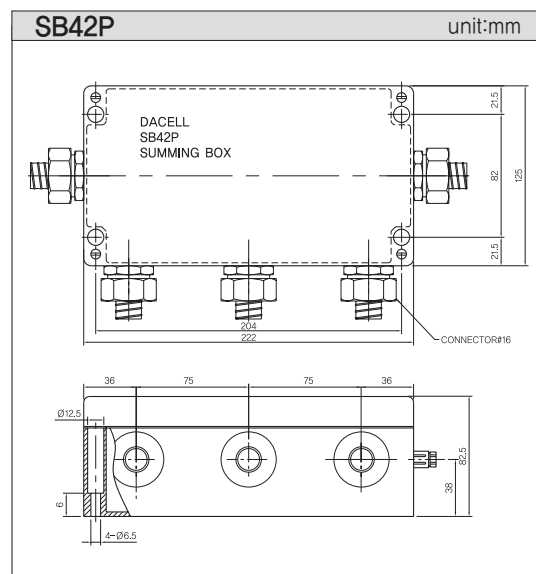


SUMMING BOX

>Model SB42P, SB62P

- 42P : 4 loadcells
- 62P : 6 loadcells

Loadcell 2 to 4 single cells
 Trimming – Individual cell,
 excitation trim 0~20 ohms
 Potentiometers – 20 ohms,
 20-turn cerment 100ppm
 Cable Fittings – $\varnothing 5 \sim \varnothing 10$
 Enclosure – Aluminium die-cast, IP67



★Specifications are subject to change without notice.

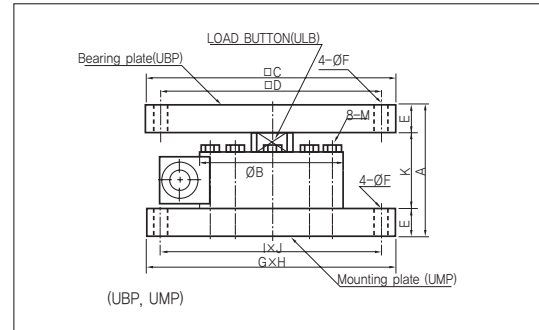
Load Cell Accessory

BEARING & MOUNTING PLATE

>LOW PROFILE TYPE(UL)

unit:mm

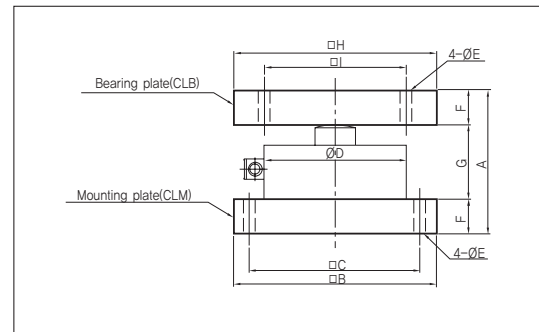
Model	Load Cell Cap	A	B	C	D	E	F	G	H	I	J	M	K
UBP-5 UMP-5	UL-500K	67	88	100	80	15	9	100	100	80	80	6-M6	37
UBP-1 UMP-1	UL-1T~5T	112	118	130	105	23	12	210	130	185	105	8-M8	66
UBP-2 UMP-2	UL-10T	155	180	200	150	30	14	210	200	160	160	8-M12	95
	UL-20T	165	180	200	150	30	14	210	200	160	160	8-M12	105
UBP-3 UMP-3	UL-50T	265	226	260	200	60	23	260	260	200	200	12-M16	145
UBP-4 UMP-4	UL-100T	315	306	360	280	60	27	360	360	280	280	16-M20	195



>LOW PROFILE TYPE(CL)

unit:mm

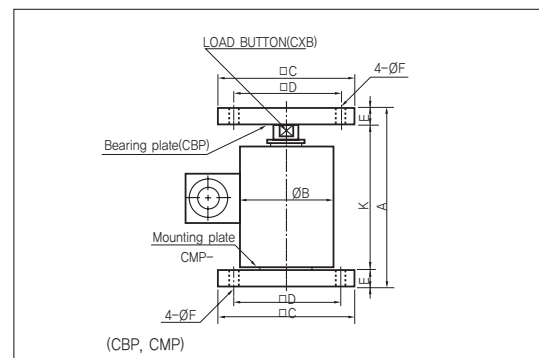
Model	Load Cell Cap	A	B	C	D	E	F	G	H	I
CLB-1 CLM-1	CL-1T~5T	96	150	120	98	9	25	46	150	120
CLB-2 CLM-2	CL-10T	125	160	130	118	12	30	65	160	130
CLB-3 CLM-3	CL-20T	125	190	150	157	14	30	65	180	150
CLB-4 CLM-4	CL-50T	165	230	170	187	23	45	75	220	190
CLB-5 CLM-5	CL-100T	240	320	250	278	27	60	120	310	270



>CANISTER TYPE(CX)

unit:mm

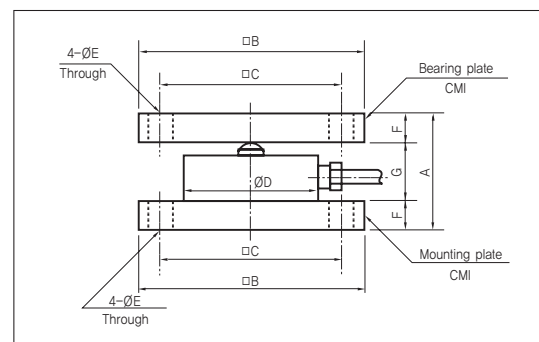
Model	Load Cell Cap	A	B	C	D	E	F	K
CPB-1 CMP-1	CX-50K~CX-1T	162	88	145	110	23	12	434
CPB-2 CMP-2	CX-2T~CX-5T	222	88	145	110	26	12	170
CPB-3 CMP-3	CX-10T	187	93	160	125	30	14	127
	CX-20T~30T	207	93	160	125	30	14	147
CPB-4 CMP-4	CX-50T	245	137	160	125	40	19	165
CPB-5 CMP-5	CX-100T	330	166	260	200	60	23	210



>CM TYPE

unit:mm

Model	Load Cell Cap	A	B	C	D	E	F	G
CMI-1	CM-50K~2T	56	100	78	51	8	15	26
CMI-2	CM-5T	102	160	126	88	14	30	42
	CM-10T	107	160	126	88	14	30	47
CMI-3	CM-20T	110	160	126	114	14	30	50



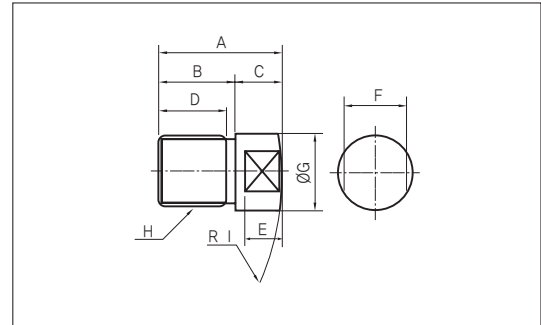
★Specifications are subject to change without notice.

Load Cell Accessory

LOAD BUTTON

unit:mm

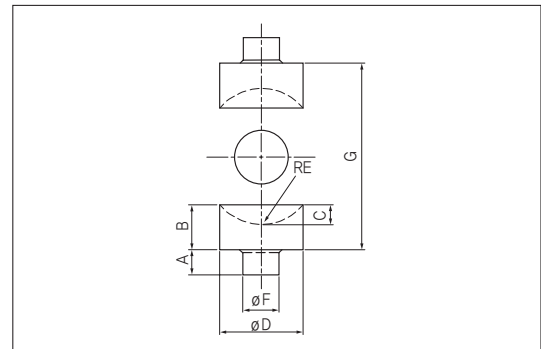
Model	Load Cell Cap	A	B	C	D	E	F	G	H	I
CXB-1	CX-50K~1T	19	10	9	7	6.7	16	24	M12×1.25	65
CXB-2	CX-2T~5T	43	23	20	19	18	32	42	M24×2	60
ULB-1	UL-1T~5T	60	40	20	36	20	27	34	M18×1.5	100
ULB-2	UL-10T	70	40	30	36	30	36	39	M24×2.0	100
ULB-3	UL-20T	100	60	40	56	40	50	59	M39×2.0	200
ULB-4	UL-50T	105	60	45	56	45	65	80	M50×2	200
ULB-5	UL-100T	145	80	65	75	65	105	116	M76×3	240
ULB-6	UL-500K	27	15	12	13	9	14	20	M12×1.25	65



MOVEMENT ABSORBER UNIT FOR CP

unit:mm

Model	Load Cell Cap	A	B	C	ØD	RE	ØF	Ball
CPB11	5kgf~300kgf	11	16	7	30	19.5	11.4	Ø19
CPB13	500kgf~2tf	11	16	7	30	19.5	13.4	Ø19
CPB18	3tf~5tf	11	20	10	40	24.0	18.0	Ø25.4
CPB26	10tf	15	27	12	60	40.0	26.0	Ø38.1



ROD END BEARING

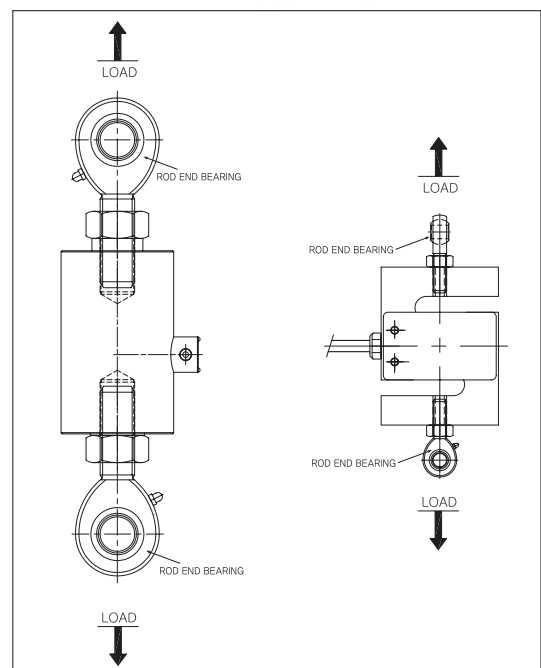
unit:mm

Model	Specification	Pitch	Application			
REF-3	M3	0.5	UMM			
REF-6	M6	1	UMM			
REF-12	M12	1.25	UM			
REF-16	M16	1.5	TX25			
REF-20	M20	1.5	TX25			
REF-24	M24	2	TX25			



unit:mm

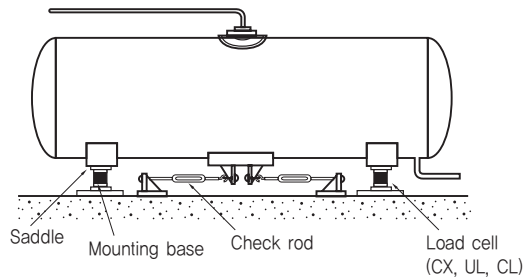
Model	Specification	Pitch	Application			
REM-4	M4	0.7	UMI			
REM-6	M6	1	UU	UU2	UU3	UMI
REM-12	M12	1.25	TX	UL		
REM-12A	M12	1.75	UU	UMI		
REM-18	M18	1.5		UMI		
REM-20	M20	1.5	UU			
REM-24	M24	2	TX	UU		
REM-39	M39	2	TX	UU		



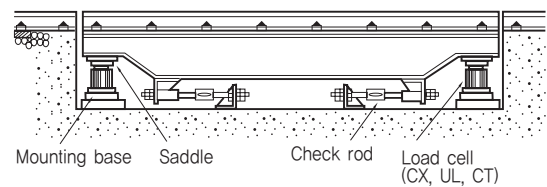
★Specifications are subject to change without notice.

Load Cell Serve Extensively

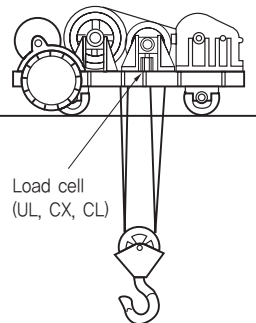
Measurement of tank's storage capacity



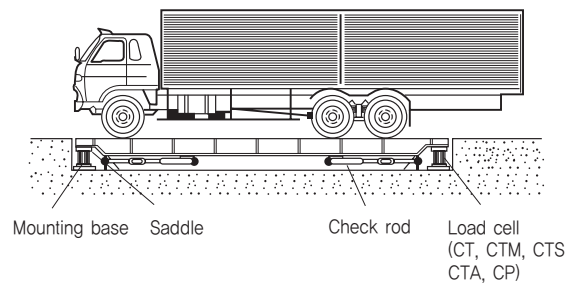
Measurement of freight-car weight



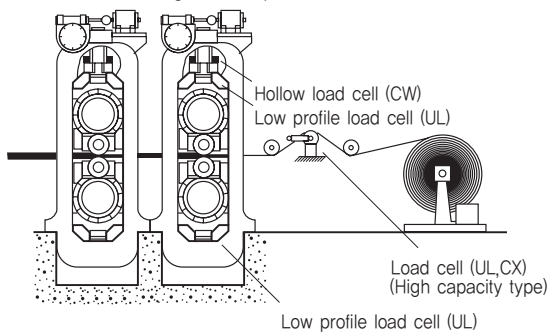
Measurement of swing weight



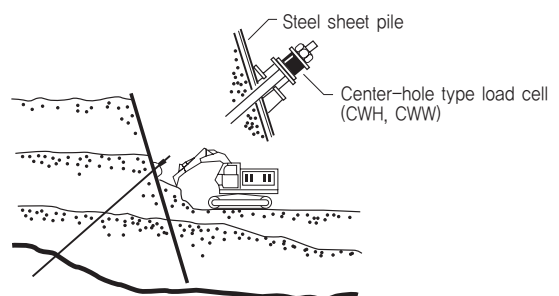
Measurement of truck weight



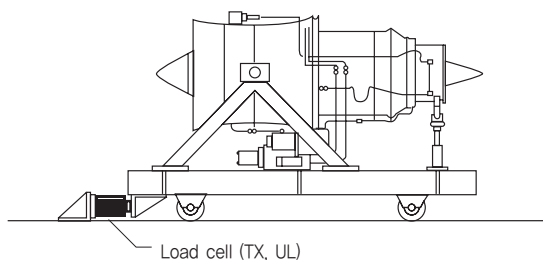
Measurement of rolling mill roll pressure



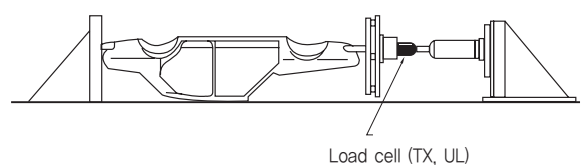
Measurement of load to bank with steel sheet pile



Measurement of jet engine's thrust



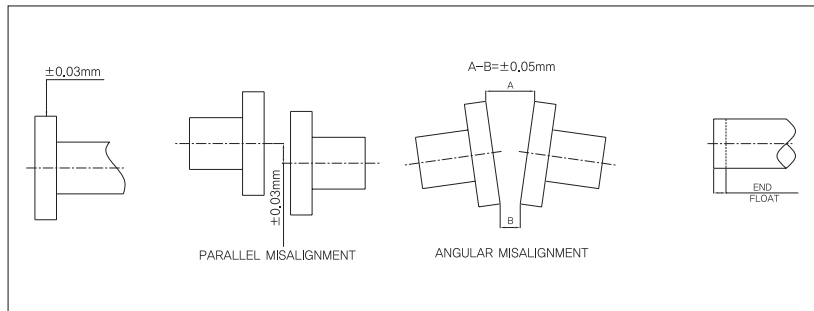
Measurement of vehicle body



Installation of Torque Sensors

1. Shaft Misalignments.

Parallel misalignment is the offset of two mating shaft centerlines although the centerlines remain parallel to each other. Angular misalignment is two shaft centerlines intersecting at some angle other than zero degrees. End float is the relative displacement of one shaft end with respect to the other.



2. Coupling Types (single-flex, double-flex and rigid Coupling)

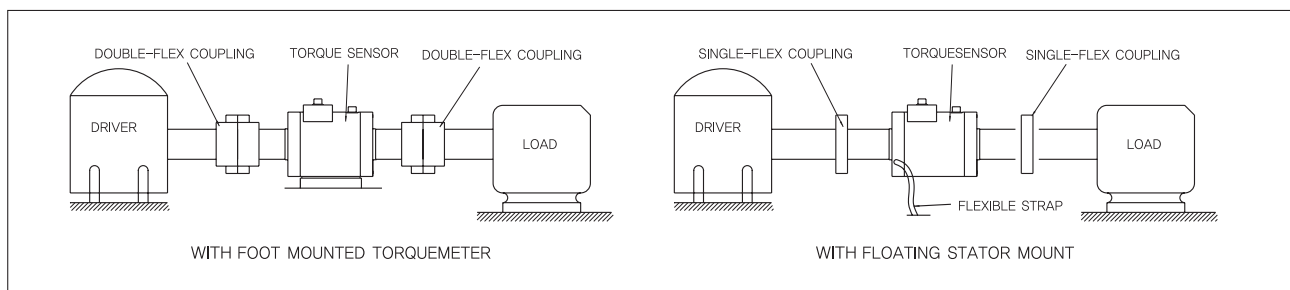
A single-flex coupling accepts angular misalignment only. That means it acts as a hinge or a pivot and cannot accept parallel misalignment. A double-flex coupling accept both angular and parallel misalignment. It may be visualized as two single-flex couplings with a short spacer or distance between the pivots. Depending on their design, both single-flex and double-flex types may or may not accept end float. A rigid coupling, as its name implies, is merely a set of rigid flanges mounted on a shaft. It cannot compensate for or permit any misalignment.

3. Torquemeter Mountings

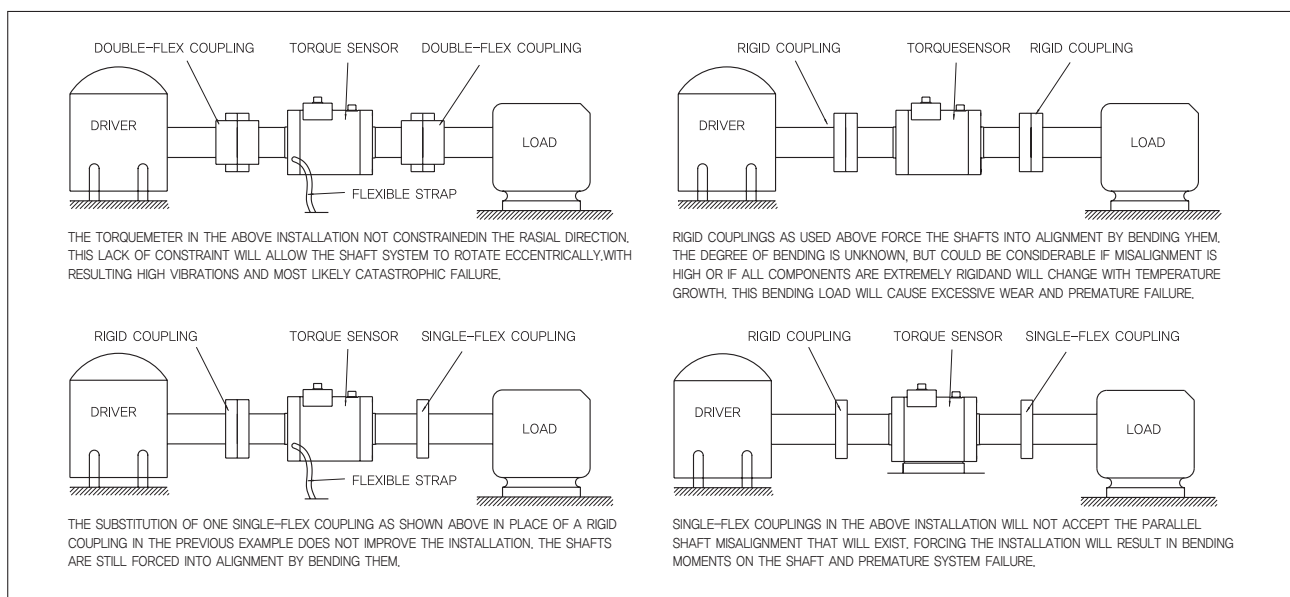
Floating Shaft – applicable to both shaft and flange type torquemeters. Use a single flex coupling at each shaft end to accommodate angular misalignment

Foot Mounted – for shaft style torquemeters only. Use a double flex coupling at each shaft end to handle both parallel and angular misalignments.

BEST INSTALLATIONS



INCORRECT INSTALLATIONS



Technical Definitions of Terminology

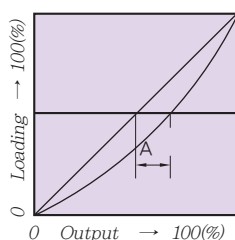
1 RATED CAPACITY (R.C.)

The maximum axial load that a load cell is designed to measure within its specification.

2 RATED OUTPUT (R.O.)

The algebraic difference between the outputs at no-load and at rated load. Usually load cell output is specified in milli-volts per volt at rated capacity.

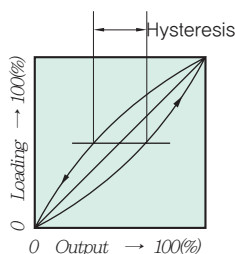
3 NON-LINEARITY



The maximum deviation of the calibration curve from a straight line between zero and rated load outputs, expressed as a percent of the rated output and measured on increasing load only.

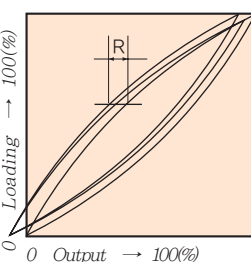
A: Linear line drawn to obtain terminal linearity

4 HYSTERESIS



The maximum difference between output readings for the same applied load one point obtained while increasing from zero and the other while decreasing from rated output. The points are taken on the same continuous cycle. The deviation is expressed as a percent of rated output.

5 REPEATABILITY



The ability of a load cell to reproduce output readings when the same load is applied to it consecutively, under the same conditions, and in the same direction. Repeatability is expressed as the maximum difference between output readings as a percent of rated output.

6 ZERO BALANCE

The output signal of the load cell with rated excitation and with no load applied, usually expressed in percent of rated output.

7 TEMPERATURE RANGE, COMPENSATED

The range of temperature over which the load cell is compensated to maintain rated output and zero balance within specific limits.

8 TEMPERATURE RANGE, SAFE

The range of temperature over which the load cell may be safely operated up to full scale without causing failure but specifications may not be met.

9 TEMPERATURE EFFECT ON RATED OUTPUT

The change in rated output due to a change in ambient temperature. Usually expressed as $\pm$ a percentage

change in rated output per degree C change in ambient temperature, over the compensated temperature range.

10 TEMPERATURE EFFECT ON ZERO BALANCE

The change in zero balance due to a change in ambient temperature. Usually expressed as $\pm$ a percentage change in rated output per degree C change in ambient temperature, over the compensated temperature range.

11 TERMINAL RESISTANCE, INPUT;

The resistance of the load cell circuit measured at the excitation terminal, at standard temperature, with no-load applied, and with the output terminals open-circuited.

12 TERMINAL RESISTANCE, OUTPUT

The resistance of the load cell circuit measured at the output signal terminals, at standard temperature, with no-load applied, and with the excitation terminals open-circuited.

13 INSULATION RESISTANCE

The DC resistance expressed in ohms measured between any electrical connector pin or lead wire and the load cell body or case. Normally measured at 50 V DC.

14 EXCITATION

The voltage or current applied to the input terminals of the load cell.

15 SAFE OVERLOAD

The maximum load in percent of rated capacity which can be applied without causing a permanent change in the performance specifications.

16 ULTIMATE OVERLOAD

The maximum load in percent of rated capacity which can be applied without producing a structural failure.

17 CREEP

The change in load cell output occurring with time, while under load, and with all environmental conditions and other variables remaining constant. Usually measured with rated load applied and expressed as a percent of rated output over a specific period of time.

18 ACCURACY

Stated as a limit tolerance which defines the average deviation between the actual output versus theoretical output.

In practical load cell applications, the potential errors of nonlinearity, hysteresis, repeatability and temperature effects do not normally occur simultaneously, nor are they necessarily additive.

Therefore, accuracy is calculated based upon the RMS value of potential errors, assuming a temperature band of $\pm 10^\circ\text{C}$, full rated load applied, and proper set up and calibration. Potential errors of the readout, cross talk, or creep effects are not included.

LOAD CELL **TORQUE**

REMOTE DISPLAY & MINI PRINT

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ACCESSORIES



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