



LOAD CELL & TORQUE

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Customize & High Technology



DACELL

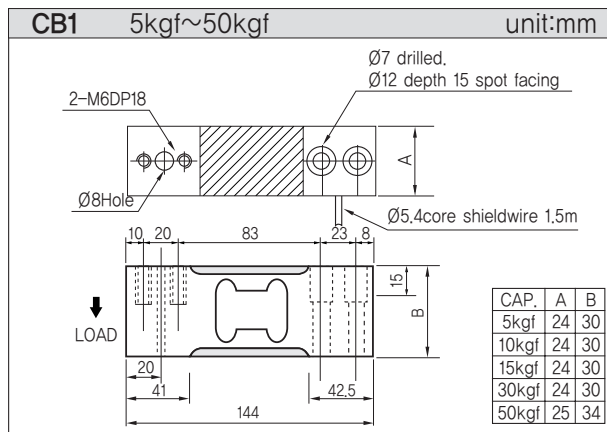
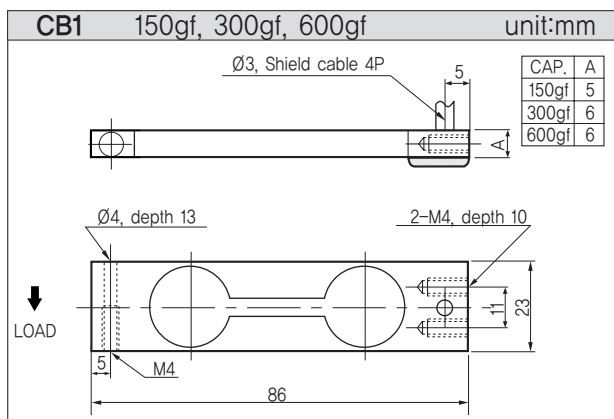
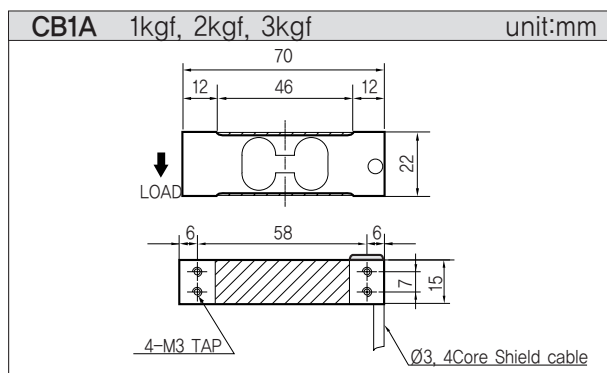
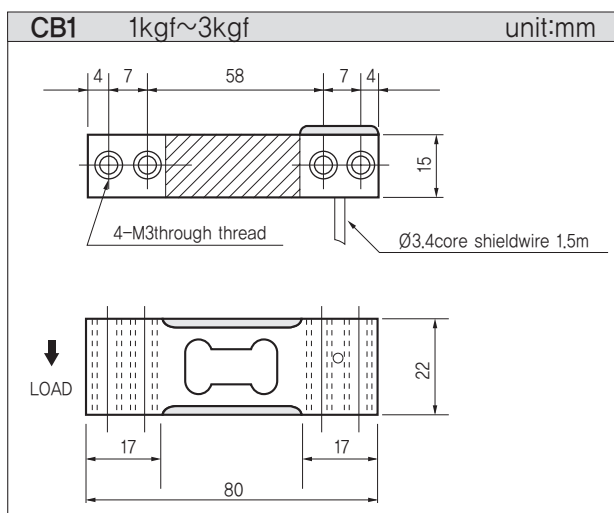
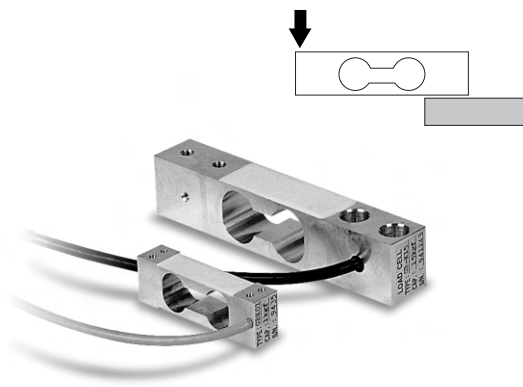
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BENDING BEAM LOAD CELLS

Model CB1, CB1A

This strain gage load cell has developed newly as a electronic "Scale" for commercial purpose, with the 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 treatment.

Protection Class IP65



SPECIFICATIONS

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

★Specifications are subject to change without notice.

BENDING BEAM LOAD CELLS

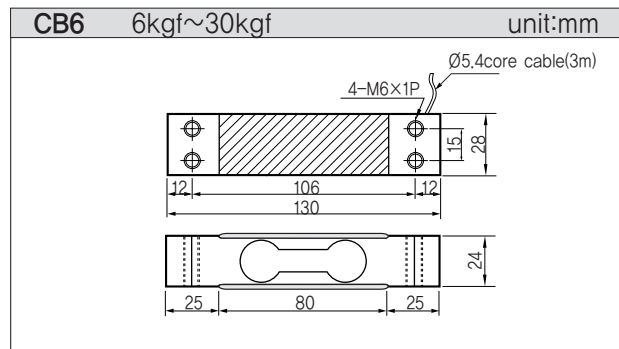
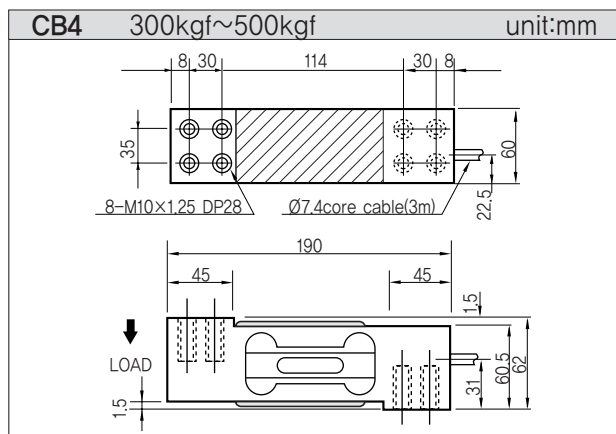
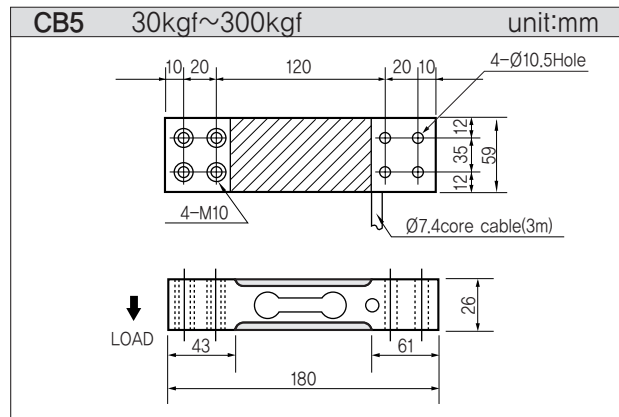
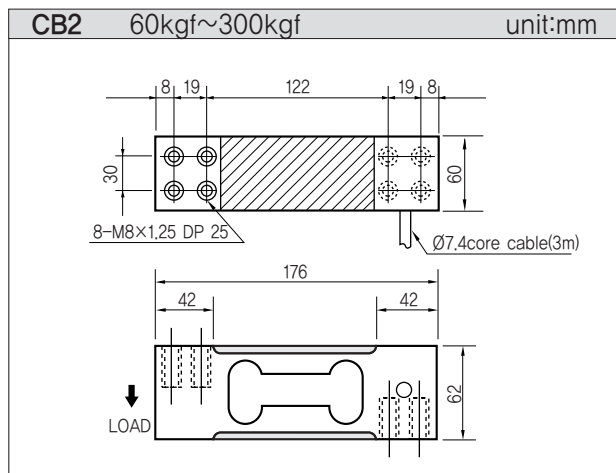
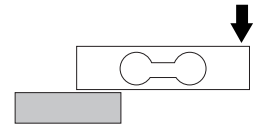
> Model CB2, CB4, CB5, CB6

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 4CORE, 3m	Ø7 4CORE, 3m	Ø7 4CORE, 3m	Ø5 4CORE, 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			

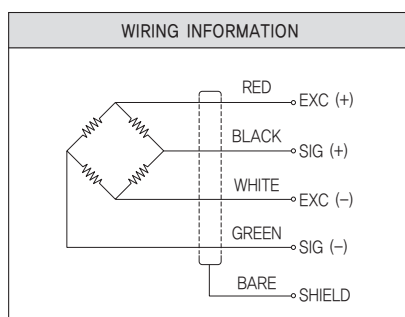
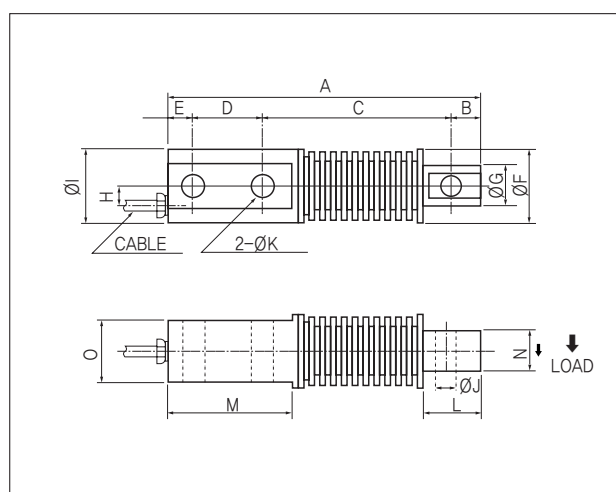
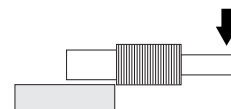
★Specifications are subject to change without notice.

BEAM LOAD CELL

> Model CBC

Stainless steel bellows seal

Can be used for both compression and tension measuring. 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±0.5%
Nonlinearity	0.03% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Zero balance	±1% of R.O.
Temperature effect, on rated output	0.02% of LOAD/10℃
Temperature effect, on zero balance	0.02% of R.O./10℃
Temperature range, compensated	-10~70℃
Temperature range, safe	-20~80℃
Terminal resistance input	350±50Ω
Terminal resistance output	350±5Ω
Insulation resistance bridge	2000MΩ
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	Ø5 4core cable, 3m

> DIMENSIONS TABLE

unit:mm

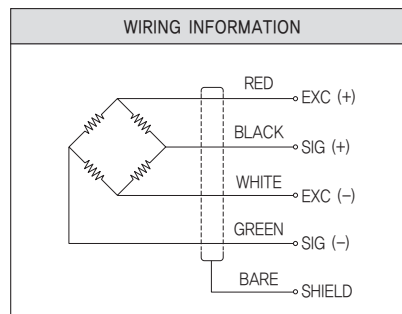
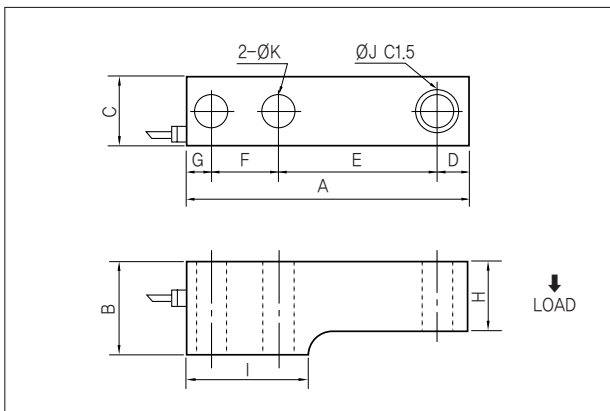
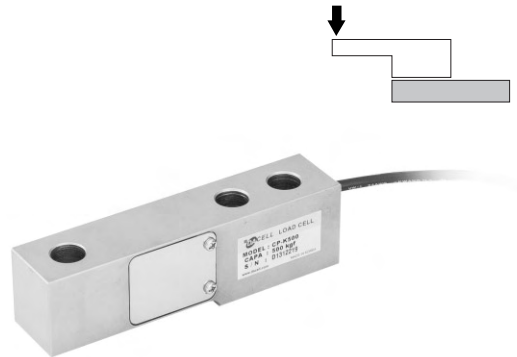
Capacity	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Weight(kg)
10~100kg (98.1N~980.7N)	130	10	72	35	13	39	20	9	42	8.5	8.5	20	58	17	35	1.0
200~500kg (1.9kN~4.90kN)	200	20	120	45	15	50	29	14	52	12	14	40	80	25	40	1.8

★Specifications are subject to change without notice.

PLATFORM SCALE LOAD CELLS

> Model CP, CP57

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



> 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 $\pm$ 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 $\pm$ 30 Ω
Insulation resistance bridge	2000M Ω
Excitation recommended	10V
Safe overload	150% R.C.
Cable length	50kgf~6tf : $\varnothing$ 5 $\pm$ 0.3mm 4core, 3m / 10tf~12tf : $\varnothing$ 7 $\pm$ 0.3mm 4core, 3m

> DIMENSIONS TABLE

unit:mm

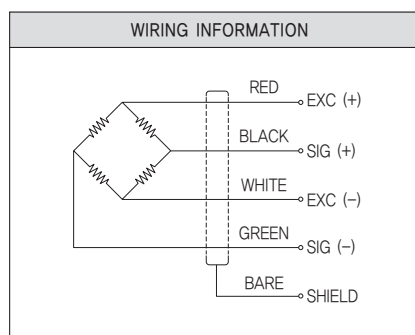
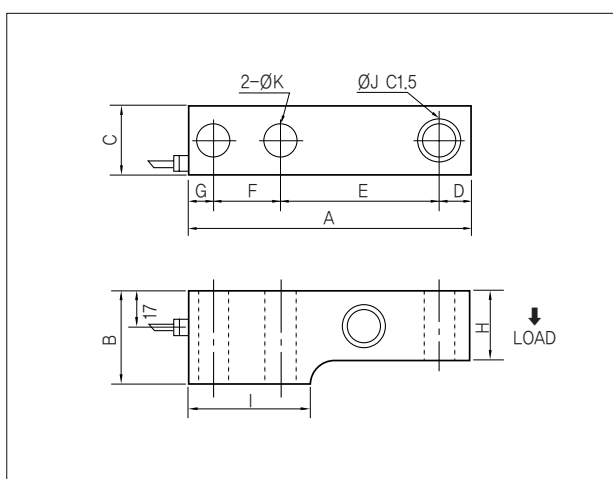
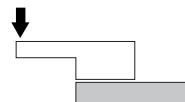
Model	Capacity	A	B	C	D	E	F	G	H	I	ØJ	ØK	Weight(kg)
CP	50kgf~300kgf (490.3N~2,942kN)	135	36	26	17	75	25	18	32	58	11.5	11.5	0.5
	500kgf~2tf (4,90kN~19,61kN)	135	38	30	17	75	25	18	34	58	13.5	13.5	1.1
	3tf~5tf (29,42kN~49,03kN)	170	48	38	20	85	50	15	39	79	18.5	18.5	2.3
	6tf (58,84kN)	203	48	50	23	95	62	23	39	110	24.5	24.5	3.5
	10tf~12tf (98,07kN)	263	60	60	30	118	90	25	52	143	26	26	9
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.

PLATFORM SCALE LOAD CELL

> Model CPS

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



> SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	500kgf, 1tf, 2tf, 3tf, 5tf, 9tf, 10tf, 12tf (4.903kN, 9.807kN, 19.61kN, 29.42kN, 49.0kN, 88.26kN, 98.07kN, 117.7kN)
Rated output(R.O)	2mV/V±0.1%
Nonlinearity	0.03% of R.O.
Hysteresis	0.03% of R.O.
Repeatability	0.25% 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	Ø5±0.3mm 4core, 3m

> DIMENSIONS TABLE

unit:mm

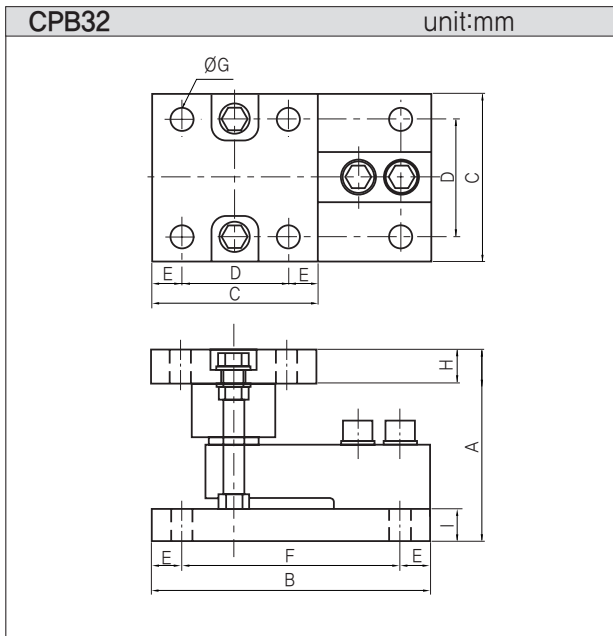
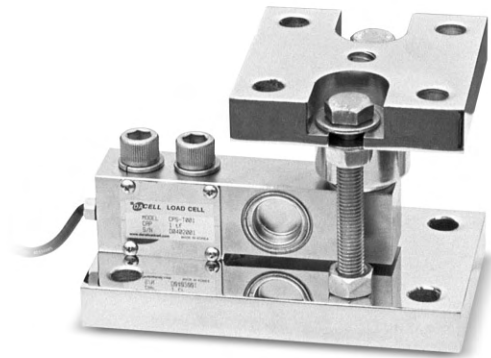
Capacity	A	B	C	D	E	F	G	H	I	ØJ	ØK	Weight(kg)
500kgf~2tf (4.903kN~19.61kN)	135	38	30	17	75	25	18	34	58	13.5	13.5	1.1
3tf~5tf (29.42kN~49.03kN)	170	48	38	20	85	50	15	39	79	18	18.5	2.3
9tf (88.26kN)	200	52	56	20	95	62	23	44	110	21	24.5	5
10tf~12tf (98.07kN~117.1kN)	263	60	60	30	118	90	25	52	143	26	26	9

★Specifications are subject to change without notice.

PLATFORM SCALE LOAD CELLS

> 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

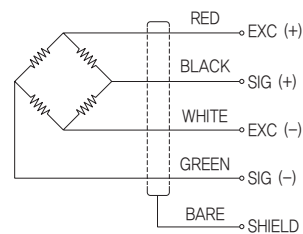
CPB42 : CPS loadcells + Zinc Plateel Steel Mtg Kit

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.

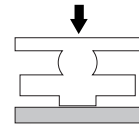
TRUCK SCALE LOAD CELL

Model CT

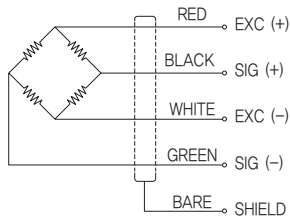
Capacity: 20tf, 25tf, 30tf.

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

Protection Class IP67



WIRING INFORMATION



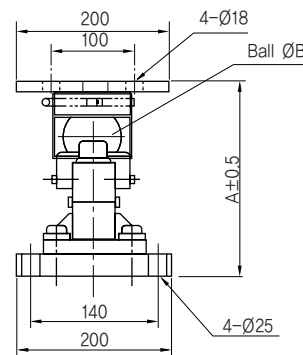
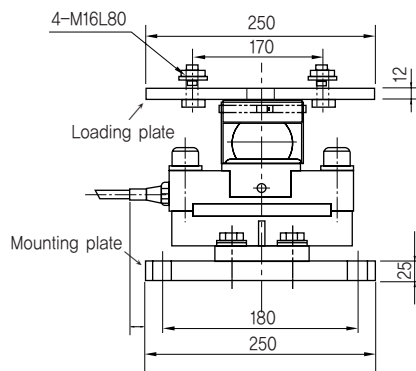
ORDERING INFORMATION

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
20tf	255	3"
25tf	255	3"
30tf	255	3"

SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C)	20tf, 25tf, 30tf (196.1kN, 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.

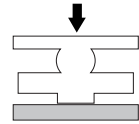
TRUCK SCALE LOAD CELL

> Model CTM

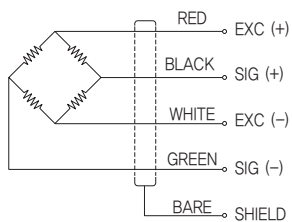
Capacity: 5tf, 10tf

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

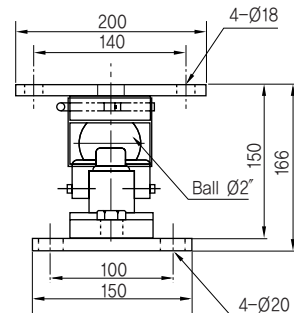
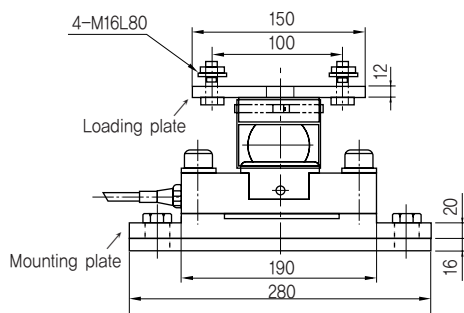


ORDERING INFORMATION

CTM-T10-FS : Full sets - 18kg

CTM-T10-BC : Loadcell, Ball, Cup and Cap - 9kg

CTM-T10-LC : Only Loadcell - 7kg



> SPECIFICATIONS

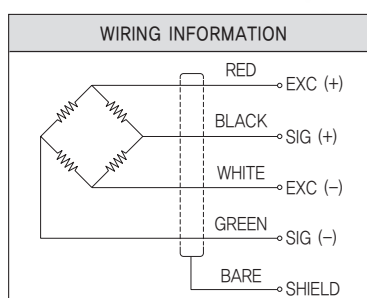
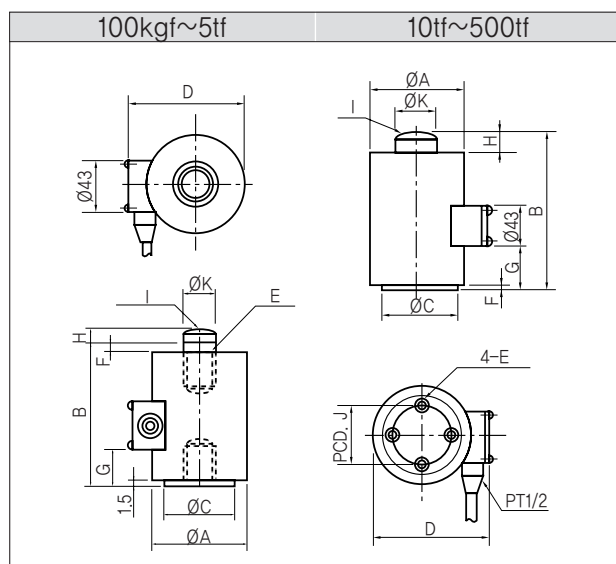
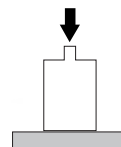
Specifications	Accuracy
Rated capacity(R.C)	5tf, 10tf (49.03kN, 98.07kN), 15tf
Rated output(R.O)	2mV/V $\pm$ 0.2%
Nonlinearity	0.03% of R.O.
Hysteresis	0.02% of R.O.
Repeatability	0.02% of R.O.
Creep(30min)	0.025% of R.O.
Zero balance	$\pm$ 2% of R.O.
Temperature effect, on rated output	0.02% of LOAD/10°C
Temperature effect, on zero balance	0.03% of R.O./10°C
Temperature range, compensated	-10 $\sim$ +70°C
Temperature range, safe	-20 $\sim$ +80°C
Terminal resistance input	800 $\pm$ 30 Ω
Terminal resistance output	700 $\pm$ 2 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

High Precision Accuracy Compression Service.
Hopper, Tank Weighing.
Protection Class IP67



> SPECIFICATIONS

Specifications	Accuracy		
	CXH	CXM	CXG
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±0.1%	2.0mV/V±0.1(50tf~500tf : 1.5mV/V±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	±1% of R.O.	±1% of R.O.	±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±5Ω	350±5Ω	350±5Ω
Terminal resistance output	350±5Ω	350±5Ω	350±5Ω
Insulation resistance bridge/case	5000MΩ	5000MΩ	5000MΩ
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

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

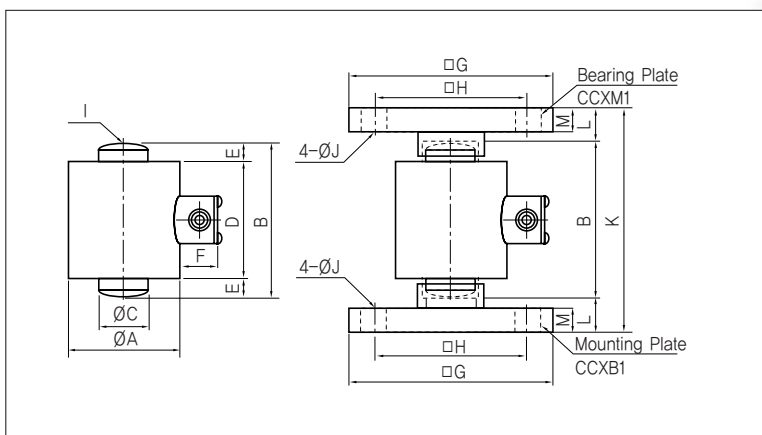
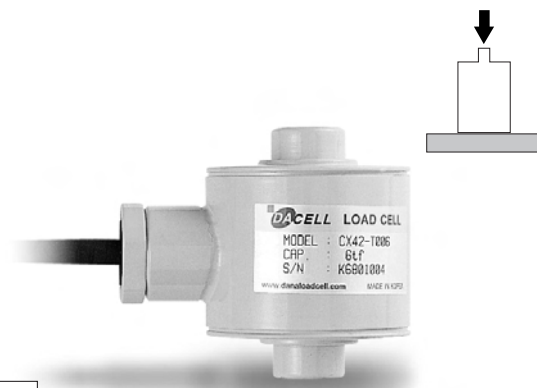
*Specifications are subject to change without notice.

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

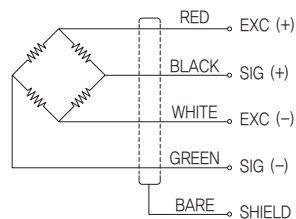
CCX - T10 - FS : Full sets (CCXM1 and CCXB1)
CAPACITY

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±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±5Ω
Terminal resistance output	350±5Ω
Insulation resistance	2000MΩ
Excitation recommended	10V DC
Safe overload	150% R.C.
Cable length	Ø7±, 4coreshield, 5m

WIRING INFORMATION



DIMENSIONS TABLE

unit:mm

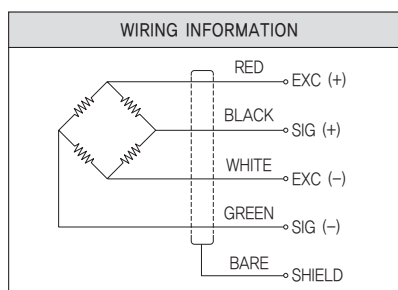
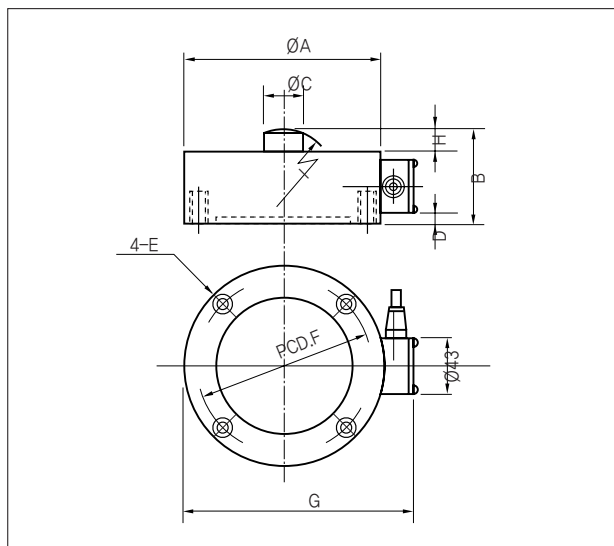
Capacity	A	B	C	D	E	F	G	H	J	K	L	M	R1	Weight(kg)
5tf (49.03kN)	45	56	16.5	40	8	30	100	80	10.5	116	30	19	60	3
10tf (98.07kN)	88	120	24	90	15	30	140	100	18	180	30	19	140	7.8
20tf (196.1kN)	88	120	38	90	15	30	140	100	18	190	35	22	140	9.6
30tf (294.2kN)	93	140	38	110	15	30	200	150	23	220	40	25	140	20.2
50tf (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
CLM : Protection Class IP67



> SPECIFICATIONS

Specifications	Accuracy	
	CLM	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	700Ω
Terminal resistance output	700±3Ω	700Ω
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

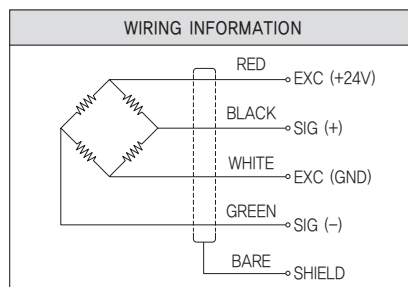
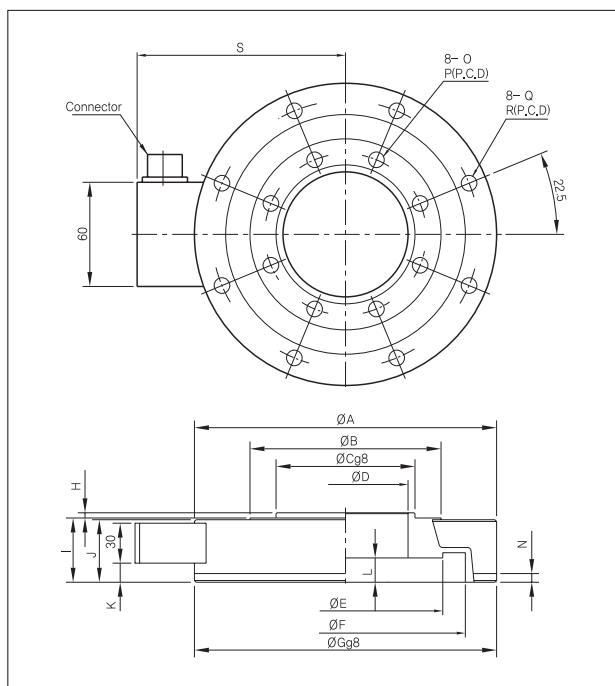
Capacity	ØA	B	ØC	D	E	ØF	G	H	RI	Weight(kg)
500kgf (4.903kN)	88	30	16	1.5	M6×1 DP10	70	119	5	60	1.8
1tf (9.807kN)	98	46	22	1.5	M8×1.25 DP12	80	129	7	60	26
2tf (19.61kN)	98	46	22	1.5	M8×1.25 DP12	80	129	7	60	
5tf (49.03kN)	98	46	22	1.5	M8×1.25 DP12	80	129	7	60	
10tf (98.07kN)	118	65	24	11	M8×1.25 DP12	98	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.

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.
Non-linearity	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 ⁸ times with rated capacity.

DIMENSIONS TABLE

unit:mm

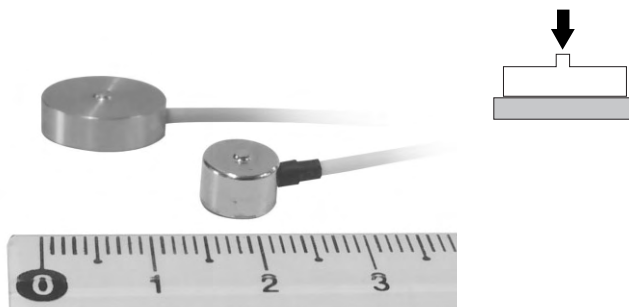
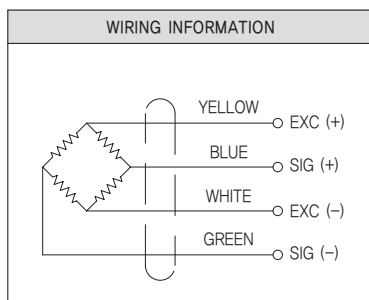
Model	Capacity	A	B	C	D	E	F	G	H	I	J	K	L	N	O	P	Q	R	S	Weight (Approx. kg)
UL12-T6	58.84kN	174	110	80	72	112	138	181	3	37	36	6	14	5	9	93	9	154	120	8
UL12-T8	78.45kN																			
UL12-T12	118kN	180	110	80	70	112	138	181	5	60	59.5	26	17	10	9	93	9	160	123	10
UL12-T15	147.1kN																			
UL12-T20	196.1kN																			
UL12-T27	265kN	275	180	135	110	182	208	276	7	60	59	26	17	10	13	160	13	247	171	20
UL12-T34	333.4kN																			
UL12-T50	490.3kN																			

★Specifications are subject to change without notice.

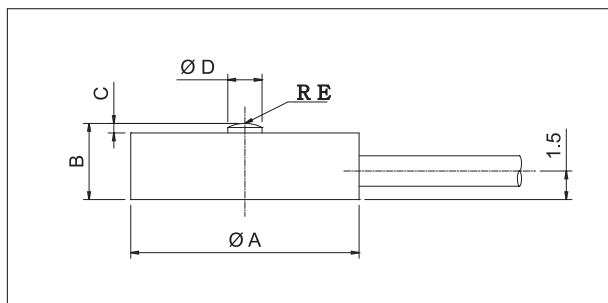
MINIATURE COMPRESSION LOAD CELL

> Model CMM92, CMM97

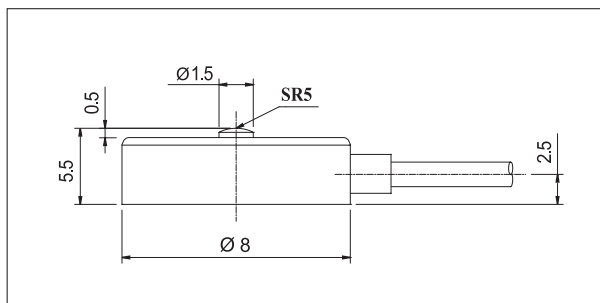
Small-Sized Compression Load Cell.
Super compact and lightweight.
Competitive price.



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℃	
Terminal resistance output	±2%LOAD/10℃	
Temperature effect, on zero balance	±2%R.O./10℃	
Terminal resistance	350Ω ±2.5%	
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

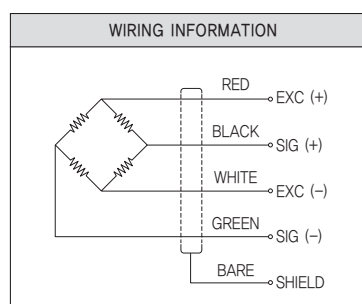
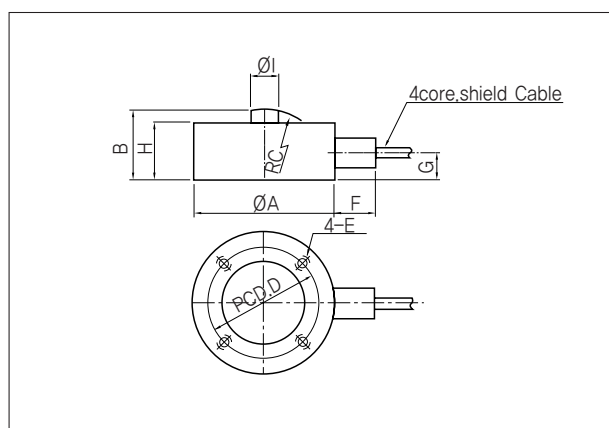
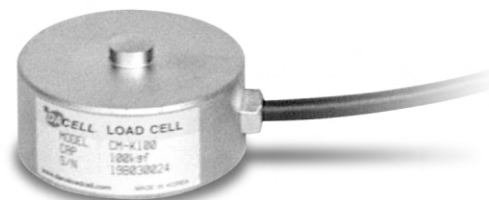
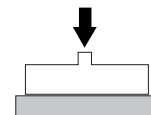
★Specifications are subject to change without notice.

MINIATURE COMPRESSION LOAD CELL

> Model CM

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.
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℃
Temperature effect, on zero balance	0.05% of R.O./10℃
Temperature range, compensated	-10~70℃
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	50kgf~2tf : Ø5mm 4core, 3m / 3tf~10tf : Ø7mm 4core, 3m

> DIMENSIONS TABLE

unit:mm

Capacity	ØA	B	C	D	E	F	G	H	ØI	Weight(kg)
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

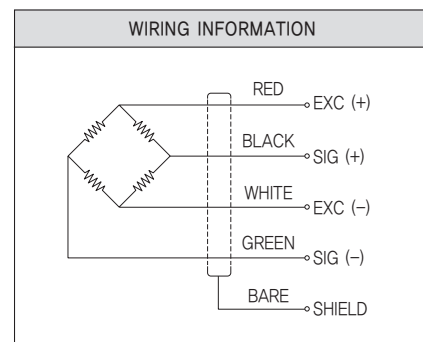
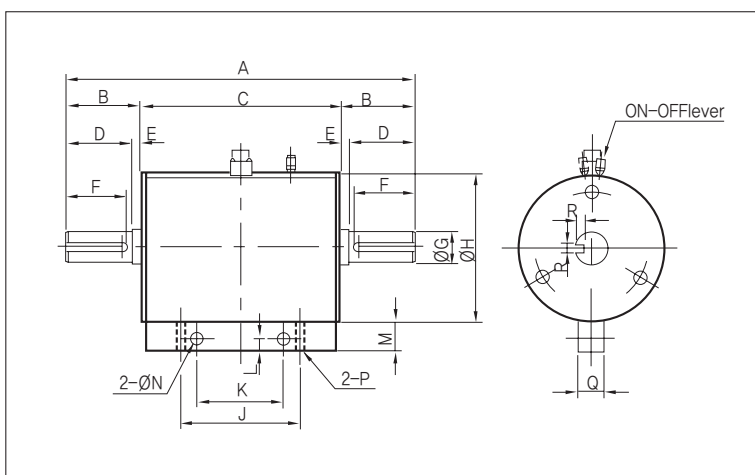
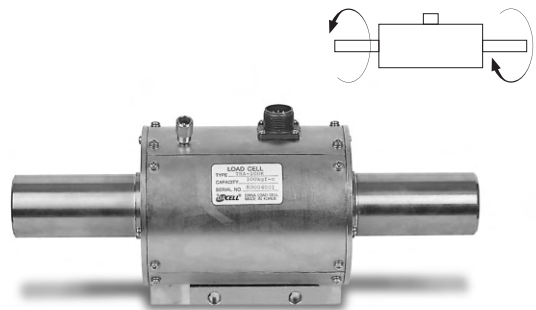
★Specifications are subject to change without notice.

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.

※Option : r.p.m. sensor, Foot mount.



SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	1~300kgf-m (9.807N-m~2,942kNm)
Rated output(R.O.)	1.5mV/V±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	350Ω ±1%
Insulation resistance bridge	200MΩ
Temperature effect, on rated output	0.3% R.O/10℃
Temperature effect, on zero balance	0.2% Load/10℃
Safe overload	120% R.C.
Cable length	Ø7.4core cable 3m

DIMENSIONS TABLE

unit:mm

Model	Capacity	A	B	C	D	E	F	ØG	ØH	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	5×5	5000	3
TRA-2K	2kgf-m (19.61N-m)	203	43	117	38	5	35	18	85	90	50	7	17	7	M6	15	5×5	5000	
TRA-5K	5kgf-m (49.03N-m)	203	43	117	38	5	35	18	85	90	50	7	17	7	M6	15	5×5	5000	
TRA-10K	10kgf-m (98.07N-m)	240	55	130	50	5	45	32	100	90	50	7	17	7	M6	15	10×8	5000	7
TRA-20K	20kgf-m (196.1N-m)	240	55	130	50	5	45	32	100	90	50	7	17	7	M6	15	10×8	4000	
TRA-50K	50kgf-m (490.3N-m)	340	95	150	90	5	85	47	118	100	60	8	20	9	M8	17	12×8	4000	12
TRA-100K	100kgf-m (980.7N-m)	340	95	150	90	5	85	47	118	100	60	8	20	9	M8	17	12×8	4000	
TRA-200K	200kgf-m (1,961kN-m)	360	103	154	100	3	95	63	135	100	60	8	20	9	M8	17	18×11	4000	23
TRA-300K	300kgf-m (2,942kN-m)	360	103	154	100	3	95	63	135	100	60	8	20	9	M8	17	18×11	3000	

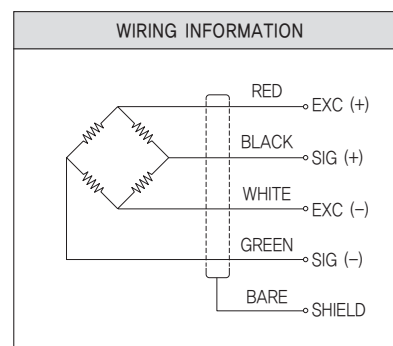
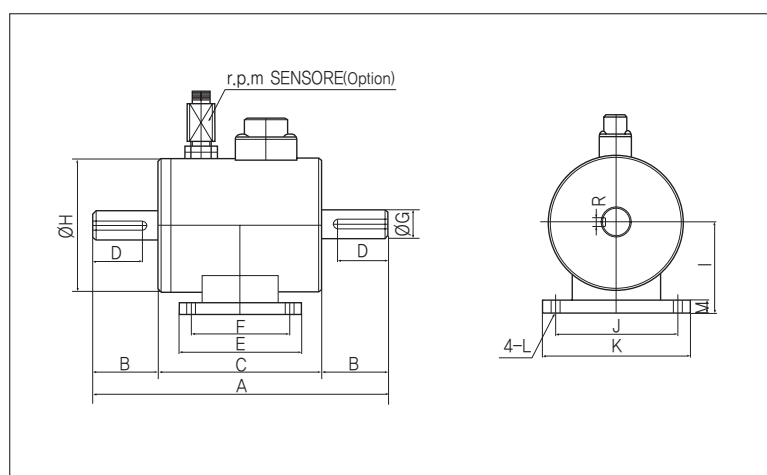
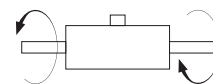
★Specifications are subject to change without notice.

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, Foot mount.



SPECIFICATIONS

Specifications	Accuracy
Rated capacity(R.C.)	1~2000kgf-m (9.807N-m~19.61kN-m)
Rated output(R.O.)	1.5mV/V±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	350Ω±5%
Insulation resistance bridge	200MΩ
Temperature effect, on rated output	0.3% R.O/10℃
Temperature effect, on zero balance	0.2% Load/10℃
Safe overload	120% R.C.
Cable length	Ø7.4core cable 3m

DIMENSIONS TABLE

unit:mm

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

★Specifications are subject to change without notice.

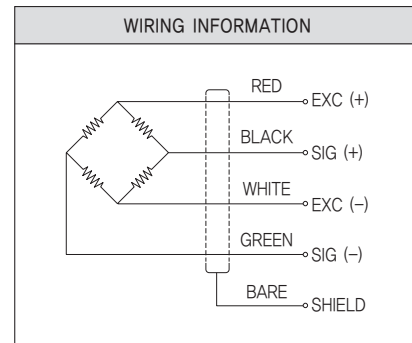
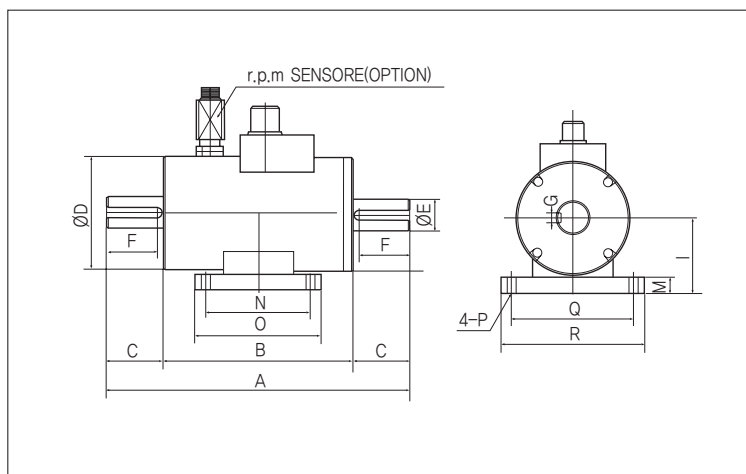
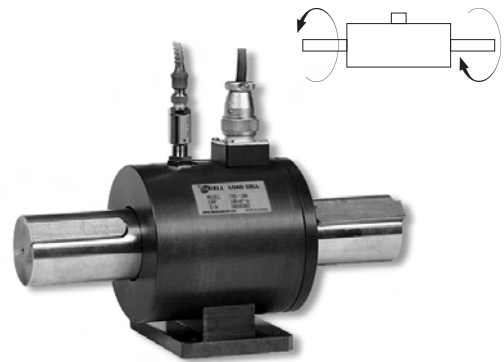
SHAFT TYPE BRUSHLESS TORQUE SENSORS

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, Foot mount.



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	0.3% R.O/10 $^{\circ}$ C
Temperature effect, on zero balance	0.2% Load/10 $^{\circ}$ C
Safe overload	120% R.C.
Cable length	cabl $\varnothing$ 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

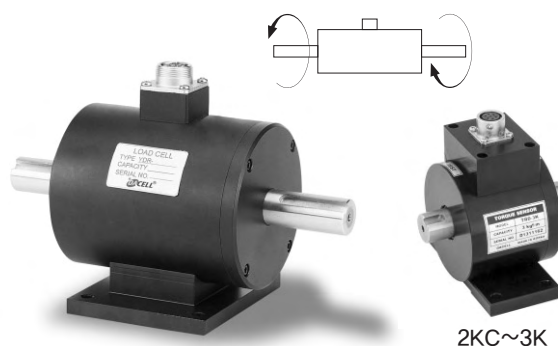
★Specifications are subject to change without notice.

SHAFT TYPE TORQUE SENSORS

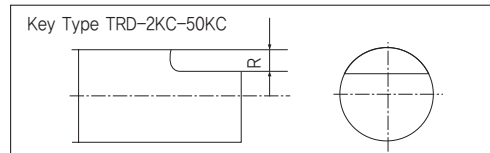
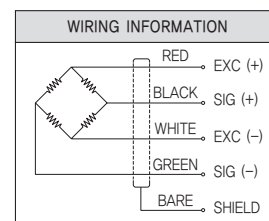
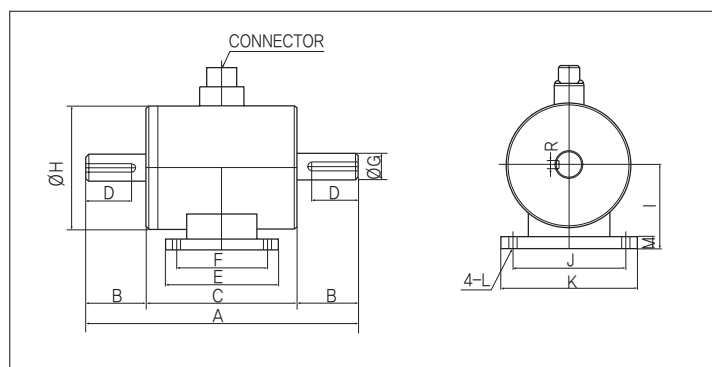
Model TRD

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.

※Option : Foot mount.



2KC~3K



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±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	350Ω±5%
Insulation resistance bridge	200MΩ
Temperature effect, on rated output	0.3% R.O./10℃
Temperature effect, on zero balance	0.2% Load/10℃
Safe overload	120% R.C.
Cable length	Ø7.4core cable 3m

DIMENSIONS TABLE

unit:mm

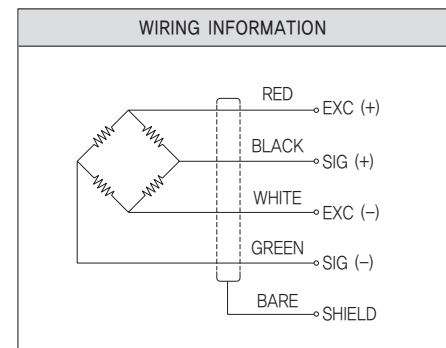
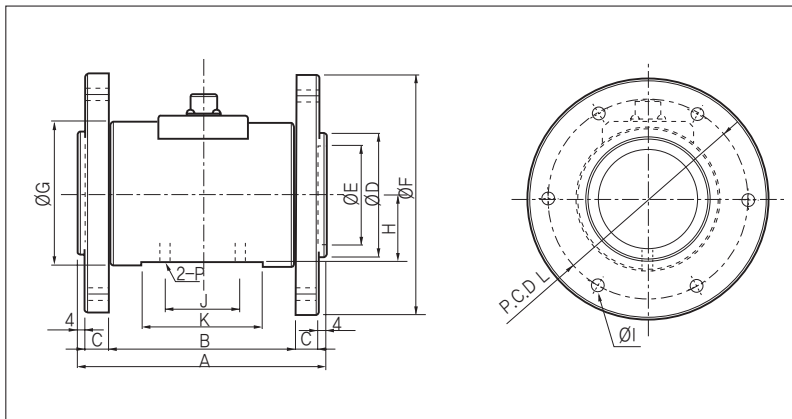
Model	Capacity	A	B	C	D	E	F	ØG	ØH	I	J	K	ØL	M	R	R.P.M
TRD-2KC	2kgf-cm (0.196N-m)	84	16	52	12	42	32	8	60	34	65	76	5.5	8	1	3000
TRD-5KC	5kgf-cm (0.490N-m)	84	16	52	12	42	32	8	60	34	65	76	5.5	8	1	3000
TRD-10KC	10kgf-cm (0.981N-m)	84	16	52	12	42	32	8	60	34	65	76	5.5	8	1	3000
TRD-20KC	20kgf-cm (1.961N-m)	84	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	5×5	5000
TRD-2K	2kgf-m (19.61N-m)	90	16	58	12	46	32	18	72	41	80	94	6.5	8.5	5×5	5000
TRD-3K	3kgf-m (29.42N-m)	90	16	58	12	46	32	18	72	41	80	94	6.5	8.5	5×5	5000
TRD-5K	5kgf-m (49.03N-m)	180	42.5	95	35	64	50	18	80	46	80	100	7	12	5×5	5000
TRD-10K	10kgf-m (98.07N-m)	180	42.5	95	35	64	50	18	80	46	80	100	7	12	5×5	5000
TRD-20K	20kgf-m (196.1N-m)	220	55	110	45	100	84	32	100	63	98	115	7	12	10×8	4000
TRD-50K	50kgf-m (490.3N-m)	220	55	110	45	100	84	32	100	63	98	115	7	12	10×8	4000
TRD-100K	100kgf-m (980N-m)	280	80	120	69	120	98	47	100	66	124	148	8.5	15	12×8	4000
TRD-200K	200kgf-m (1.961kN-m)	280	80	120	69	120	98	47	100	66	124	148	8.5	15	12×8	4000
TRD-500K	500kgf-m (4.903kN-m)	390	130	130	100	126	100	90	172	101	154	180	11	20	25×14	2000
TRD-1000K	1000kgf-m (9.807kN-m)	390	130	130	100	126	100	90	172	101	154	180	11	20	25×14	2000
TRD-2000K	2000kgf-m (19.6kN-m)	440	150	140	120	148	110	115	210	130	190	228	13	23	32×18	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±1%
Nonlinearity	0.3%
Hysteresis	0.3%
Repeatability	0.3%
Terminal resistance, input	350Ω ±5Ω
Terminal resistance, output	350Ω ±3Ω
Insulation resistance	300MΩ
Temperature range compensated	-10℃~60℃
Temperature range safe	-20℃~70℃
Temperature effect, on zero balance	0.08%R.O/10℃
Temperature effect, on rated output	0.08% Load/10℃
Excitation recommended	10V DC
Safe overload	150% R.C
Cable	Ø7 Shield 3m

DIMENSIONS TABLE

unit:mm

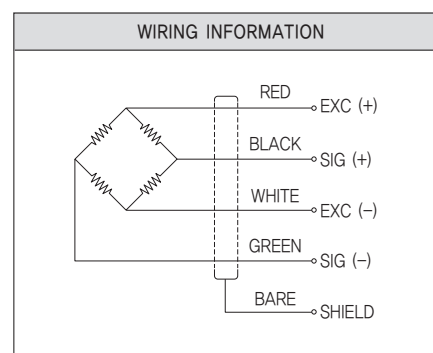
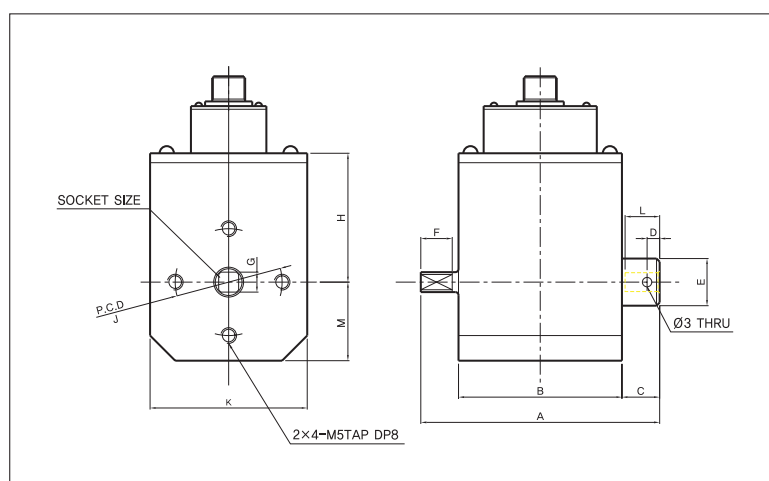
Model	Capacity	A	B	C	ØD	ØE	ØF	ØG	H	I	J	K	L	P	R.P.M
TRE-20K	20kgf-m (196.1N-m)	130	98	12	65	52	127	81	38	6-Ø6.5	50	64	105	M6 DP.8	5,000
TRE-50K	50kgf-m (490.3N-m)	134	102	12	76	62	136	88	41.5	6-Ø8.5	40	64	114	M6 DP.8	4,000
TRE-100K	100kgf-m (980.7N-m)	134	102	12	86	68	156	100	48	8-Ø10.5	48	64	130	M8 DP.8	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

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 (0.196N-m~294.2N-m)
Rated output (R.O.)	1.3mV/V $\pm$ 1%
Nonlinearity	0.3%R.O
Hysteresis	0.3%R.O
Repeatability	0.3%R.O
Terminal resistance, input	350 $\pm$ 3.5 Ω
Terminal resistance, output	350 $\pm$ 3.5 Ω
Insulation resistance	300M Ω
Temperature range, compensated	-10 $^{\circ}$ C~60 $^{\circ}$ C
Temperature range, safe	-20 $^{\circ}$ C~70 $^{\circ}$ C
Safe overload	150%R.C
Temperature effect, on zero balance	0.05%R.O/10 $^{\circ}$ C
Temperature effect, on rated output	0.1% Load/10 $^{\circ}$ C
Excitation recommended	10V DC
Safe overload	150% R.C.
Cable	Ø4 Shield 3m

DIMENSIONS TABLE

unit:mm

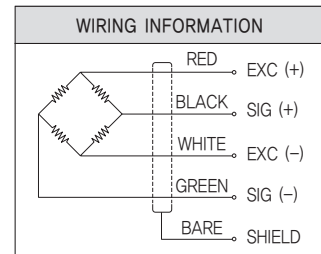
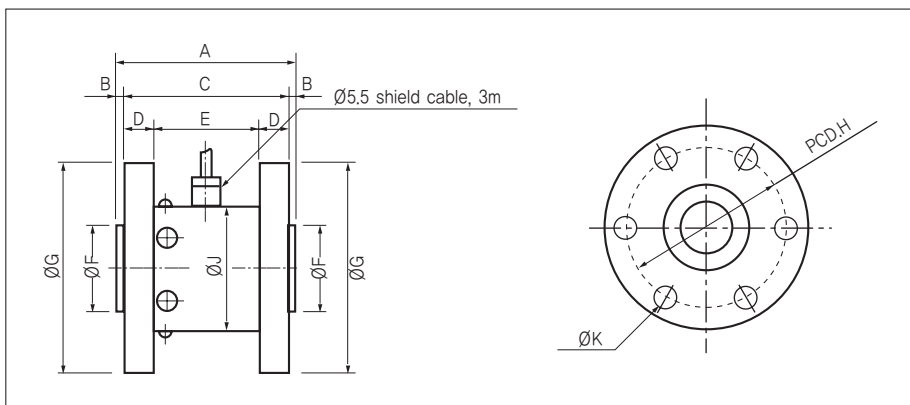
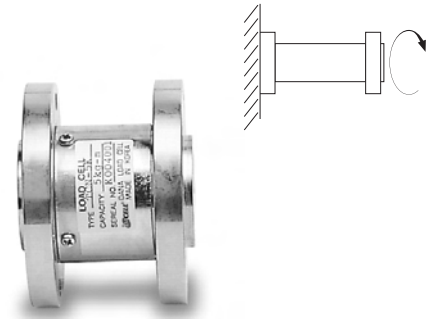
Capacity	Socket Size	A	B	C	D	ØE	F	G	M	K	L	J	H
2, 5, 10kgf-cm (0.196N-m, 0.490N-m, 0.980N-m)	1/4"	76	52	12	4	15	10	6.35	25	50	11	34	41
20, 50kgf-cm (1.961N-m, 4.903N-m)	3/8"	82	56	12	4	15	12.5	9.53	25	50	13	34	41
100, 300kgf-cm (9.807N-m, 29.42N-m)	1/2"	96	58.5	19.5	7	20	16	12.7	31	62	17	44	42
500, 1000kgf-cm (49.03N-m, 98.07N-m)	3/4"	106	58	24	10	30	22	19.1	34	68	22	52	53
2000, 3000kgf-cm (196.12N-m, 294.20N-m)	1"	123	58	33	14	40	29.2	25.4	39	78	28	62	54

★Specifications are subject to change without notice.

NON-ROTARY 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.



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°C
Temperature effect, on rated output	±0.1% Load/10°C
Excitation recommended	10V DC
Safe overload	120% R.C.
Cable length	Ø5.5 4core cable, 3m

DIMENSIONS TABLE

unit:mm

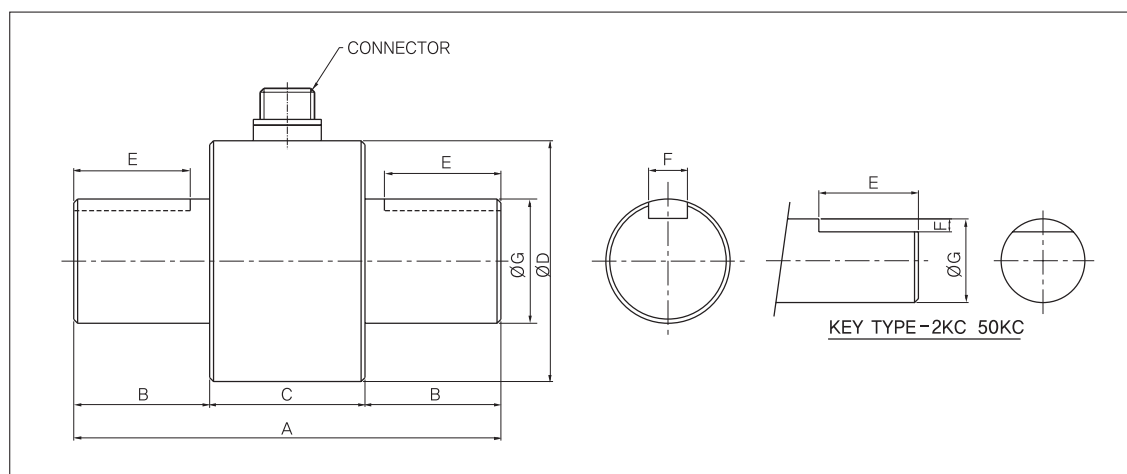
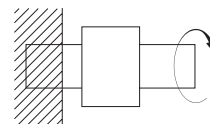
Model	Capacity	A	B	C	D	E	ØF	ØG	H	J	ØK
TCN-2KC	2kgf-cm (0.196N-m)	61	3	55	5	45	20	58	46	33	2×4-Ø4.5
TCN-3KC	3kgf-cm (0.294N-m)	61	3	55	5	45	20	58	46	33	2×4-Ø4.5
TCN-5KC	5kgf-cm (0.490N-m)	61	3	55	5	45	20	58	46	33	2×4-Ø4.5
TCN-10KC	10kgf-cm (0.981N-m)	61	3	55	10	35	40	80	66	48	2×4-Ø6.5
TCN-20KC	20kgf-cm (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

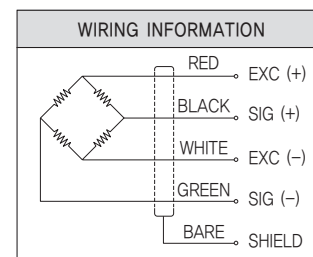
> Model TCN15

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

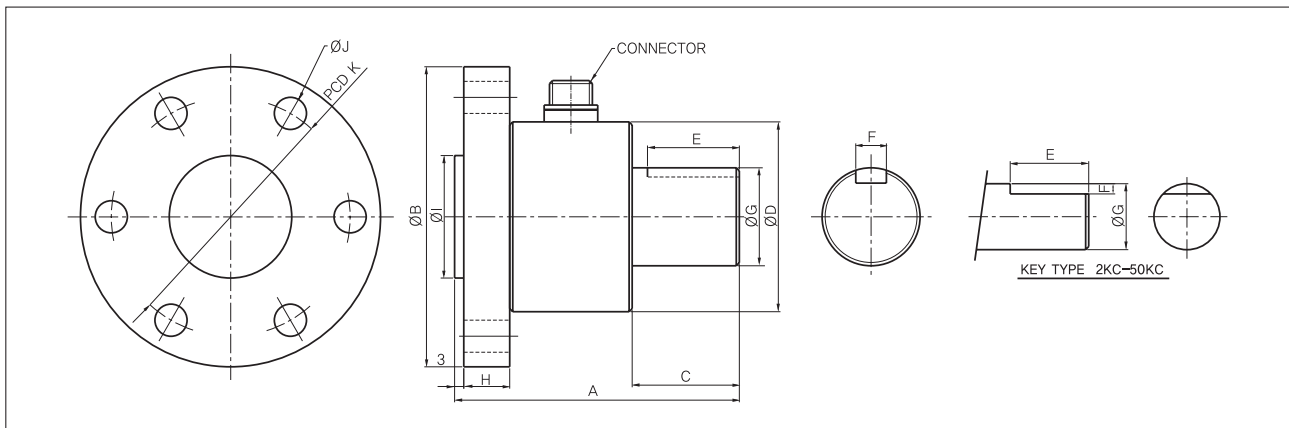
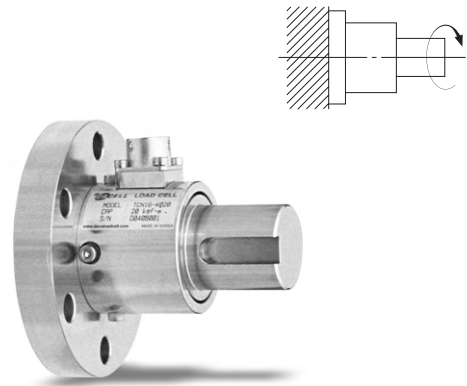
Capacity	A	B	C	ØD	E	F	G
2kgf-cm (0.196N-m)	75	20	35	34	15	1	8
5kgf-cm (0.490N-m)	75	20	35	34	15	1	8
10kgf-cm (0.981N-m)	75	20	35	34	15	1	8
20kgf-cm (1.961N-m)	75	20	35	34	15	1	8
30kgf-cm (2.942N-m)	75	20	35	34	15	1	12
50kgf-cm (4.903N-m)	75	20	35	34	15	1	12
1kgf-m (9.807N-m)	82	21	40	40	16	5×5	18
2kgf-m (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-ROTARY TORQUE SENSORS

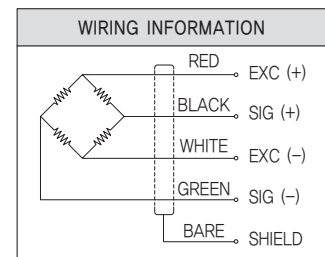
Model TCN16

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±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

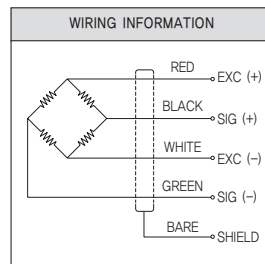
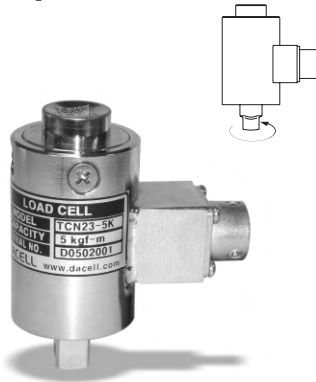
★ Specifications are subject to change without notice.

SOCKET WRENCH TORQUE SENSORS

GEAR SHIFTING LEVER LOAD CELL

> Model TCN23

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



> Model CS142

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



> SPECIFICATIONS

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

> SPECIFICATIONS

Specifications	Accuracy
Model	CS142-500N
Rated Capacity (R.C.)	500N
Rated Output (R.O.)	1mV/V $\pm$ 1%
Non-Linearity	1% R.O.
Hysteresis	1% R.O.
Resistance, Input Output	350 Ohm $\pm$ 1%
Safe Overload	120% R.C.

★Specifications are subject to change without notice.

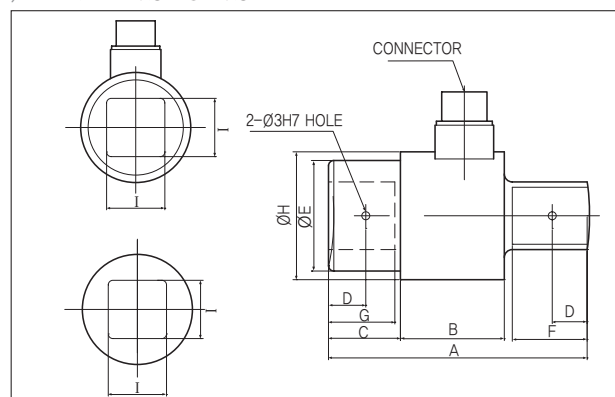
> DIMENSIONS TABLE

Unit:mm

Capacity	A	B	C	D	$\varnothing$ E	F	G	$\varnothing$ H	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"

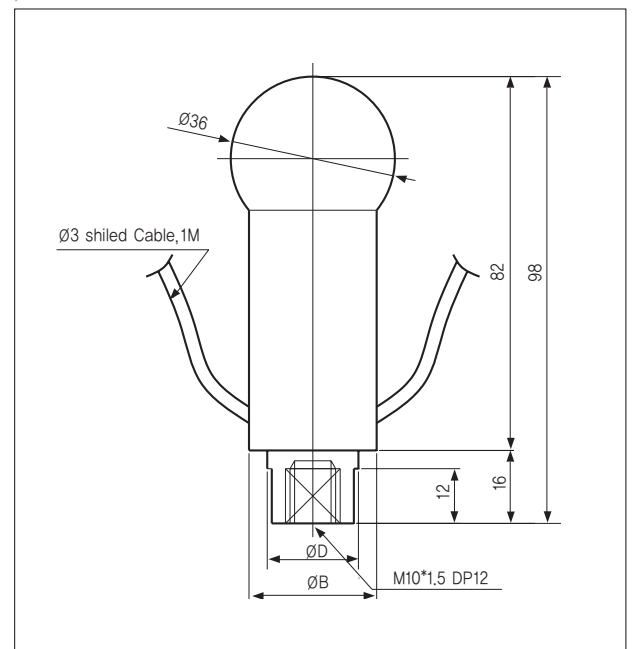
> DIMENSIONS

Unit:mm



> DIMENSIONS

Unit:mm



★Specifications are subject to change without notice.

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.

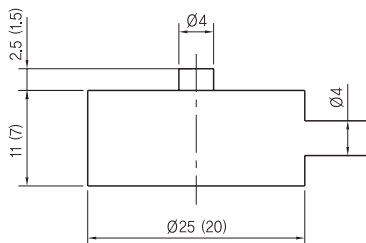
Function

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

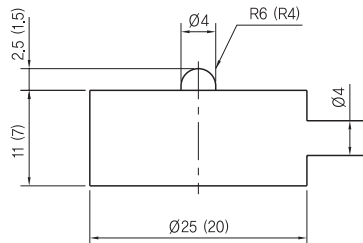


CMT

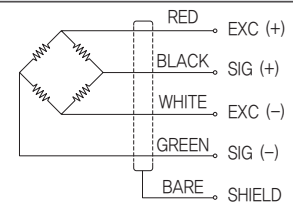
P Type



R Type



WIRING INFORMATION



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	USB output

APPLICATION



PDN20

★Specifications are subject to change without notice.

TECHNICAL DEFINITIONS OF TERMINOLOGY

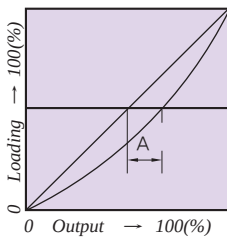
1 RATED CAPACITY (R.C.)

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.

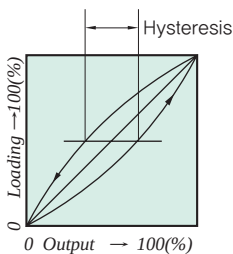
3 NON-LINEARITY



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.

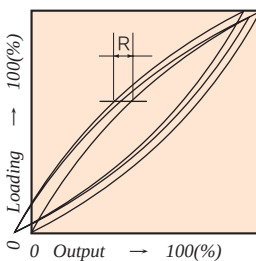
A: Linear line drawn to obtain terminal linearity

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

<http://www.dacell.com>

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AMPLIFIER

DIGITAL GAUGE
ACCESSORIES



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