

Model 5718/5798 Double-ended Load Pins

Features

- double-ended shear-beam
- capacity from 10 kN to 800 kN
- accuracy of 0.2%fs
- conditioned signal available on request
- mild steel construction with nickel plated treatment (5718)
17-4PH construction (5798)
- environment protection grade up to IP 68 (only for 5798)

Applications

- draft sensors
- crane scales
- hopper weighing
- process system
- onboard vehicle weighing

Description

Based on BCM advanced metal foil strain gauge technology, 5718/5798 load pins are made of double-ended shear-beam working principle. 5718/5798 load pin is mostly used as a shaft of sensor function when the middle part of the shaft intends to have a shearing shift corresponding to the rest on the two sides of the shaft, which can be considered as two stationary parts.

5718/5798 load pins can be used to measure the forces ranging from 10 kN to 800 kN with an accuracy up to 0.2%fs (fs = full scale). Amplified and conditioned output signal such as 4~20mA or 0.5~5V or 0.5~10V are available on request. These load pins can be sealed to high protection grade up to IP 68 so as to be operated under harsh industrial environment. Depending on the application, the cable outlet can be made either along the load pin axis (axial) or perpendicular to load pin axis (radial).

5718/5798 load pins are often served as traction-force sensors (draft sensors) to be installed in crane system, hopper system, process system, and onboard vehicle system where the single-ended shaft of sensor is necessary to measure the concerned force.

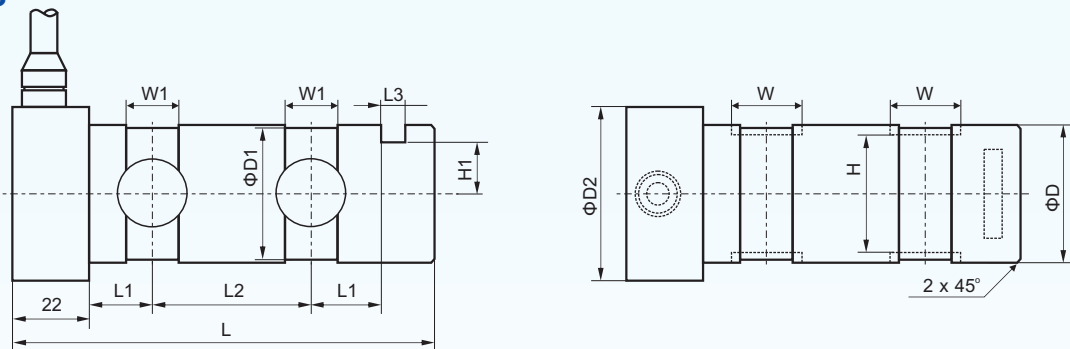


axial cable outlet: along load pin axis



radial cable outlet: perpendicular to load pin axis

Dimensions



capacity (kN)	D	D2	D1	H	H1	L	L1	L2	L3	W	W1
20, 30	40	50	39	31	15	112	17.5	45	5	20	15
50	40	50	39	31	15	122	17.5	45	10	20	15
100	50	60	48	41	15	181	44	46	10	20	15
200	70	80	68	57	25	256	44	121	10	32	27
300, 500	95	105	92	80	37	296	52	145	10	32	27
800	108	118	104	92	44	296	52	145	10	32	27

other capacities available on request.

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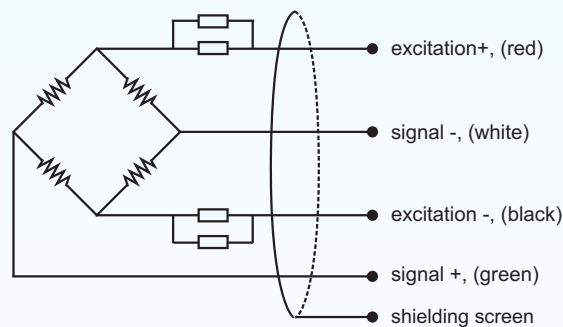
Technical Data

parameters	units	specifications		
capacity	kN	10, 20, 30, 50, 70, 100, 200, 300, 500, 800		
safe load limit	%fs	150		
ultimate overload	%fs	200		
output sensitivity at fs	mV/V	2.0 ± 0.01		
zero unbalance	%fso	± 1.5		
non-linearity	%fs	± 0.2	± 0.5 (standard)	± 1.0
hysteresis	%fs	± 0.2	± 0.5	± 1.0
repeatability	%fs	± 0.1	± 0.2	± 0.5
creep error (30 min.)	%fs	± 0.2	± 0.5	± 1.0
excitation (supply voltage)	Vdc	10		
max. excitation voltage	Vdc	15		
input resistance	Ω	400 ± 30		
output resistance	Ω	350 ± 10		
insulation resistance	MΩ	≥ 5000@50 Vdc		
storage temp. range	°C	-35 ~ +80		
operating temp. range	°C	-35 ~ +70		
compensated temp. range	°C	-10 ~ +55		
temp. coefficient of sensitivity	%fs/°C	± 0.02		
temp. coefficient of zero	%fs/°C	± 0.02		
load cell body material		mild steel (5718), 17-4PH stainless steel (5798)		
sealing		potted		
mechanical interface		refer to the dimensions on the datasheets		
electrical interface		Φ5.7 mm, 4-conductors shielded, PVC jacket, 5 m		
environment protection		IP 66 (standard), IP 67, IP 68 (for 5798 only)		
unit weight	kg	to be confirmed when order		

The listed specifications are subject to change without prior notice.

*: mV output can be amplified and configured to either 4~20mA or 0.5~5V or 0.5~10V on request.

Electrical Connection



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Ordering Information

position (pos.) 1: model										
5718: made from mild steel 5798: made from 17-4PH stainless steel										
pos. 2: capacities										
20 kN 100 kN 800 kN 30 kN 200 kN 50 kN 300 kN 70 kN 500 kN 700 kN										
pos. 3: output sensitivity										
2 mV/V*										
pos. 4: non-linearity or accuracy class										
0.2 %fs 0.5 %fs (standard) 1 %fs										
pos. 5: bridge resistance										
350 Ω (R _{in} = 410 Ω, R _{out} = 350 Ω)										
pos. 6: threads										
N = NA **. In case of NA, pos.6 can be omitted.										
pos. 7: electrical interface										
cable, code = diameter(Φ)/number of conductors/cable jacket/cable length 5.7/4/PVC/5 = Φ5.7 mm, 4-conductors shielded, PVC, length = 5*** m										
pos. 8: direction of the cable outlet										
axial: along load pin axis radial: perpendicular to load pin axis										
pos. 9: environment protection										
IP 66 IP 67 IP 68 (only for 5798)										
pos. 10: accessories for installation										
N = NA **. In case of "NA", pos.9 can be omitted.										
pos. 11: customized spec's										
When any customized spec's are required, the customer needs to add "C" as the last parameter in the ordering code, and specifies the wished spec's on his order clearly. The customized spec's needs to be confirmed in advance by BCM's sales representative. Code "C" can be omitted if no customized spec's are required.										
pos.1	pos. 2	pos. 3	pos. 4	pos. 5	pos. 6	pos. 7	pos. 8	pos. 9	pos. 10	pos. 11

*: mV output can be amplified and configured to either 4~20mA or 0.5~5V or 0.5~10V on request.

** : NA = not available or not applicable

***: This value can also be a customized value.

example: 5798-70kN-2mV/V-0.5%fs-350Ω-5.7/4/PVC/5-axial-IP66-C



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