

# Model 5718/5798 Double-Ended Load Pins

## Features

- double-ended shear-beam
- capacity from 10kN to 800kN
- non-linearity up to 0.1%fs
- conditioned signal available on request
- mild steel construction with nickel plated treatment (5718)  
17-4ph construction (5798)
- environment protection grade up to IP68 (only for 5798)

## Applications

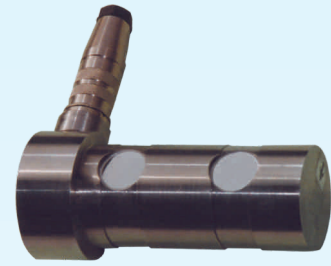
- draft sensors
- crane scales
- hopper weighing
- process system
- onboard vehicle weighing

## 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 10kN to 800kN with non-linearity up to 0.1%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 IP68 so as to be operated under harsh industrial environment. Depending on the application, the cable outlet can be made either in line with the load pin axis (axial) or perpendicular to load pin axis (radial).

5718/5798 load pins are often used 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.

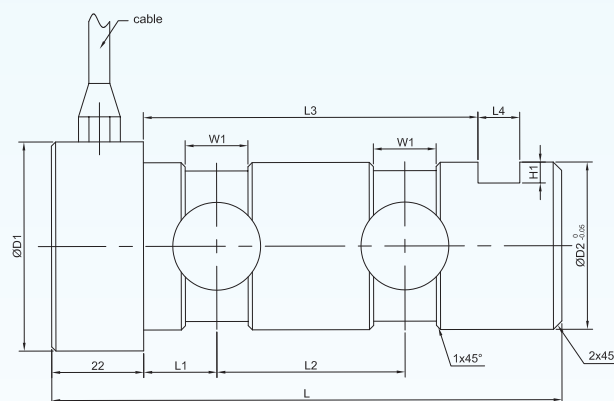


radial cable outlet: perpendicular to load pin axis



axial cable outlet: in line with load pin axis

## Dimensions



capacity (kN)	D1	D2	L	L1	L2	L3	L4	W1	H1
10, 20, 30	50	40	112	17.5	45	80	5	15	5
50	50	40	122	17.5	45	80	10	15	5
100	60	50	181	44	46	134	10	15	10
200	80	70	256	44	121	209	10	27	10
300, 500	105	95	296	52	145	249	10	27	10
800	118	108	296	52	145	249	10	27	10

Note: All dimensions are in mm.

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### Technical Data

Parameters	Units	Specifications			Notes
capacity	kN	10, 20, 30, 50, 100, 200, 300, 500, 800			
safe load limit	%fs	150			1
ultimate overload	%fs	200			
output sensitivity at fs	mV/V	≥ 1.99			2
zero unbalance	%fso	±1.5			
non-linearity	%fs	better than ±0.1	better than ±0.2 (standard)	better than ±0.5	
hysteresis	%fs	better than ±0.1	better than ±0.2	better than ±0.5	
repeatability	%fs	better than ±0.05	better than ±0.1	better than ±0.2	
creep error (30 min.)	%fs	±0.1	±0.2	±0.5	
excitation (supply voltage)	Vdc	5, ..., 12			
max. excitation voltage	Vdc	15			
input resistance	Ω	750±50			
output resistance	Ω	700±5			
insulation resistance	MΩ	≥ 2000@100Vdc			
storage temp. range	°C	-35 ~ +80			
operating temp. range	°C	-30 ~ +80			
compensated temp. range	°C	-20 ~ +70			
temp. coefficient of zero	%fso/°C	≤ ±0.002			
temp. coefficient of sensitivity	%fso/°C	≤ ±0.003			
load pin body material		mild steel (5718), 17-4ph stainless steel (5798)			
sealing		potted			
mechanical interface		Refer to Dimensions on the datasheet.			
electrical interface		Φ5.7mm, 4-core PVC shielded cable, length = 3m			
environment protection		IP66 (standard), IP67, IP68 (for 5798 only)			3
unit weight	kg	to be confirmed when order			

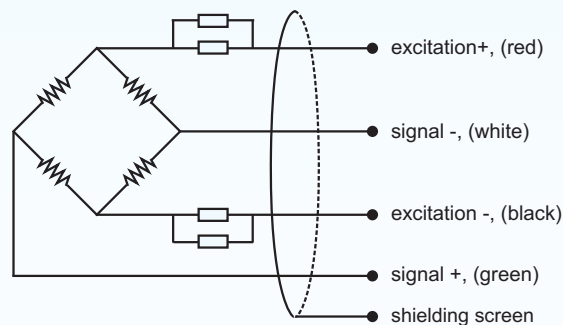
Notes: 1. "fs" refers to full scale pressure.

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

3. In case IP68 is selected, one must specify the following test conditions for the transducer in the purchasing order:

- 1) How deep under water will the installed transducer be located?
- 2) How long will the installed transducer continuously stay under water of that depth?

### Electrical Connection



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### Ordering Information

<b>position (pos.) 1: model</b>								
5718: made from mild steel 5798: made from 17-4ph stainless steel								
<b>pos. 2: capacities</b>								
10 kN    100 kN    800 kN 20 kN    200 kN 30 kN    300 kN 50 kN    500 kN								
<b>pos. 3: output sensitivity</b>								
2mV/V								
<b>pos. 4: non-linearity</b>								
0.1%fs 0.2%fs (standard) 0.5%fs								
<b>pos. 5: bridge resistance</b>								
700Ω (Rin = 750Ω, Rout = 700Ω)								
<b>pos. 6: electrical interface</b>								
5.7/4/PVC/5 = Φ5.7mm, 4-core shielded PVC cable, length = 5m(#) #: Cable length can be customized on request.								
<b>pos. 7: direction of the cable outlet</b>								
radial: perpendicular to load pin axis (standard) axial: in line with load pin axis								
<b>pos. 8: environment protection</b>								
IP66 (standard) IP67 IP68 (only for 5798)								
<b>pos. 9: customized specifications</b>								
“(*)” is necessary only if any customized specification is required, otherwise it is neglectable.								
pos.1	pos. 2	pos. 3	pos. 4	pos. 5	pos. 6	pos. 7	pos. 8	pos. 9

### Example of Ordering Code

- standard load pin:  
**5798-50kN-2mV/V-0.2%fs-700Ω-5.7/4/PVC/3-radial-IP66**
- customized load pin:  
**5798-50kN-2mV/V-0.1%fs-1000Ω-5.7/4/PVC/5-radial-IP66-(\*)**  
(\*): Customized bridge resistance = 1000Ω.

The listed dimensions, specifications, and ordering information are subject to change without prior notice.

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