

Model 6798(A)/6798(B)

Hermetically Sealed Double-Ended Load Pins



Description

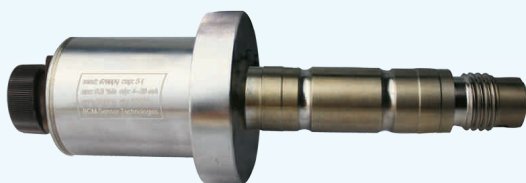
The 6798 load pin is a newly developed hermetically sealed load transducer for applications outside or in harsh environment. In its tube-like construction, the strain gauges are bonded on the inner surface of the tube and are eventually wired to form the Wheatstone circuit. Owing to its unique construction, a stainless steel housing, and excellent sealing of the electrical connector, the 6798 load pin has a hermetic seal to provide extraordinary environmental protection, up to IP68, for harsh environment use.

Compared to the 5798 load pins, the 6798 series employs the bending beam instead of shear beam working principle, and provides higher resistance to the effect of eccentric loading.

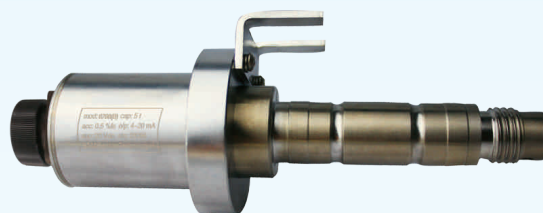
When installed for carrying a load force, the 6798 load pin works in the same way as the BCM 5798 load pins, functioning like a double-ended load transducer in anywhere a double-ended bolt or pin is required to monitor the load force applied to its middle position.

There are two standardized types. The common model number is 6798(A). The other is 6798(B) which is design for applications when a shackle is employed.

Due to the nature of the 6798, including its geometric dimensions, capacity, and electrical interface, the 6798 load pin can be customized to meet particular application requirements.



6798(A)



6798(B)

Features

- hermetic seal, up to IP68
- double-ended bending beam
- good resistance to eccentric loading effect
- amplified output on request:
4~20mA, 0.5~5Vdc, 0.5~4.5V ratiometric
- capacity: 0.5t, ..., 100t
- accuracy up to 1%fs

Applications

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

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Technical Data

Parameters		Units	Specifications	Notes
capacity		ton	0.5, 0.7, 1, 2, 3, 5, 7, 10, 20, 30, 50, 70, 100	1
safe overload		%fs	200 (standard), 300 (available for capacity $\leq 70t$)	2
ultimate overload		%fs	500 (for capacity $\leq 70t$), 300 (for capacity = 100t)	
output signal	transducer output sensitivity	mV/V	≥ 1	
	transmitter output		4~20mA, 0.5~5Vdc, 0.5~4.5V ratiometric	
zero unbalance (for transducer)		%fso	$\leq \pm 1.5$	
combined error		%fs	$\leq \pm 1$, $\leq \pm 2$ (standard)	3
creep (30min)		%fs	$\leq \pm 0.2$	
excitation for transducers		Vdc	≤ 15 , typically 10Vdc	
power supply for transmitters		Vdc	19~21 (standard), 15~36	
input resistance (for transducers)		Ω	390 \pm 20	
output resistance (for transducers)		Ω	352 \pm 3	
load resistance (for transmitters)		Ω	350~1000	
insulation resistance		M Ω	≥ 5000 @50Vdc	
compensated temperature range		$^{\circ}\text{C}$	-10 ~ +55	
operating temperature range		$^{\circ}\text{C}$	-35 ~ +85	
storage temperature range		$^{\circ}\text{C}$	-35 ~ +85	
temperature coefficient of zero		%fso/ $^{\circ}\text{C}$	$\leq \pm 0.02$	
temperature coefficient of span		%fso/ $^{\circ}\text{C}$	$\leq \pm 0.02$	
load cell body material			17-4PH stainless steel	
material of housing for electronics			304 stainless steel	
electrical interface			14S/5P with matting connector (standard)	
			$\Phi 6\text{mm}$, 4-core shielded PVC cable with 14S/5P connector, color of the cable jacket = gray, cable length = 12m.	4
environment protection			IP67 (standard), IP68	5
net weight			confirmed when ordering	

Notes: 1. For customized capacity, consult BCM.

2. "fs" refers to full scale pressure or rated pressure.

3. Includes non-linearity, hysteresis and repeatability.

4. The number of cores in the cable depends on the type of output signal.

The cable for the output of 4~20mA has 2 cores or 3 cores;

The cable for the output of either 0.5~5Vdc, or 0.5~4.5V ratiometric has 3 cores.

5. 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?

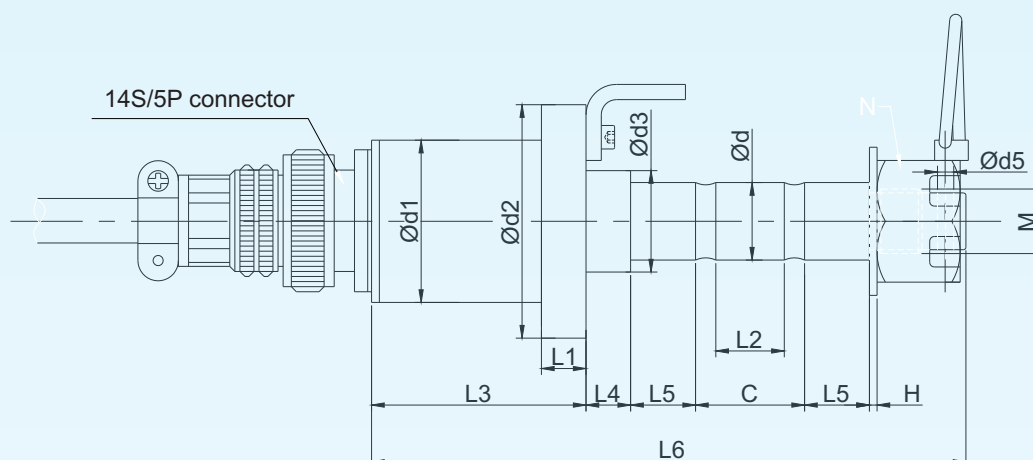
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Dimensions

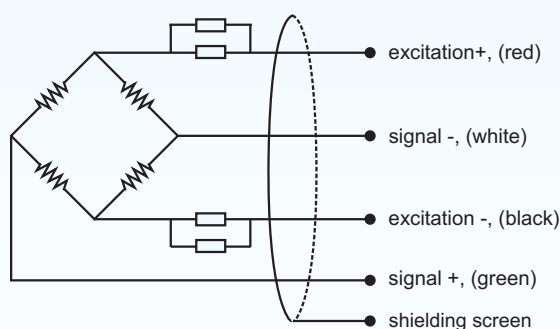


Capacity (t)	Min. Load (kg)	Dimensions (mm)													
		L1	L2	L3	L4	L5	L6	Ød1	Ød2	Ød3	Ød	C	Ød5	M	H
0.5, 0.7	5	10.0	17.0	55.0	13.0	15.0	150.0	62.0	62.0	30.0	19.1	26.9	5	M16x2	/
1	10	10.0	17.0	55.0	13.0	15.0	150.0	62.0	62.0	30.0	19.1	26.9	5	M16x2	/
2	20	10.0	22.0	55.0	13.0	18.0	170.0	62.0	62.0	33.0	22.4	31.8	5	M20x2.5	/
3	30	10.0	30.0	55.0	13.0	24.0	190.0	62.0	62.0	38.0	28.7	42.9	5	M24x3	/
5	50	10.0	32.0	55.0	13.0	27.0	205.0	62.0	68.0	42.0	31.8	46.0	5	M24x3	6
7	65	10.0	42.0	55.0	13.0	33.0	225.0	62.0	78.0	49.0	38.1	57.0	5	M24x3	6
10	100	10.0	57.0	55.0	13.0	42.0	265.0	62.0	99.0	63.0	51.0	73.0	7	M30x3.5	8
15	150	10.0	57.0	55.0	13.0	42.0	265.0	62.0	99.0	63.0	51.0	73.0	7	M30x3.5	8
25	250	10.0	85.0	55.0	15.0	64.0	355.0	75.0	118.0	83.0	70.0	105.0	7	M36x4	12
50	500	10.0	110.0	55.0	15.0	89.0	435.0	88.0	178.0	109.0	95.5	133.0	7	M36x4	16
70	750	10.0	115.0	55.0	15.0	101.0	465.0	88.0	188.0	123.0	108.0	140.0	7	M36x4	16
100	1000	10.0	115.0	55.0	15.0	101.0	465.0	88.0	188.0	123.0	108.0	140.0	7	M36x4	16

Notes: (1) All dimensions are in mm.

(2) Regarding the above-mentioned dimensions, 6798(A) and 6798(B) are the same.

Electrical Connection of Transducer



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Ordering Information

position (pos.) 1: model							
6798(A)		6798(B)					
pos. 2: capacity							
0.5t		5t		50t			
0.7t		7t		70t			
1t		10t		100t			
2t		20t					
3t		30t					
pos. 3: output signal							
1mV/V (standard)		4/20mA		0.5/5V		0.5/4.5V (ratiometric)	
pos. 4: combined error							
1%fs (standard)		2%fs					
pos. 5: overload							
200%fs (standard)		300%fs					
pos. 6: electrical interface							
14S/5P (standard): 14S/5P connector with its matting connector							
(Ø6/4(*)/PVC/12 with 14S/5P connector): Ø6 mm, 4-conductors shielded, PVC jacket, cable length = 12m, this length can be customized, with 14S/5P connector.							
*: Number of conductors needs to match the output option.							
pos. 7: environment protection							
IP67 (standard)		IP68					
pos. 8: customized specifications							
“(*)” is necessary only if any customized parameter is required, otherwise it is neglectable.							
pos.1	pos. 2	pos. 3	pos. 4	pos. 5	pos. 6	pos. 7	pos. 8

Examples of Ordering Code

- standard load pin:

6798(A)-10t-1mV/V-1%fs-200%fs-14S/5P-IP67

- customized load pin:

6798(B)-0/60t-4/20mA-0.5%fs-300%fs-(Ø6/2/PVC/12 with 14S/5P connector)-IP67-(*)

(*): Customized capacity = 60t.

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

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