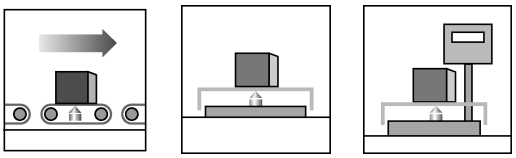
Data Sheet

PW20i

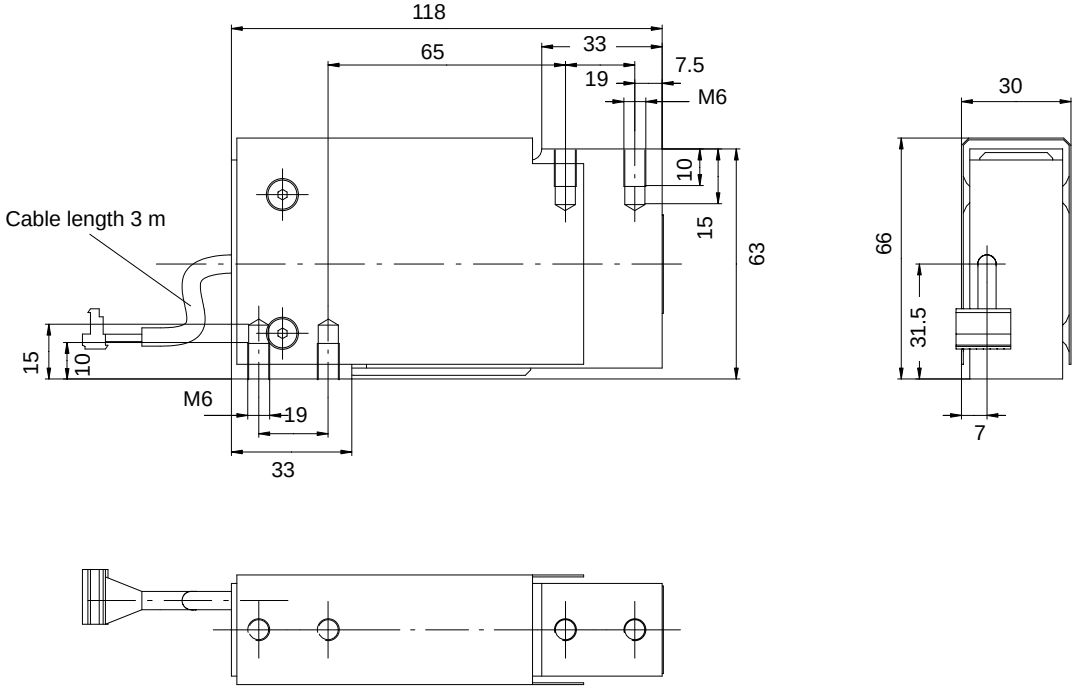
Digital load cell optimized for dyn. applications



Special features

- **High overload capacities**
- **Integrated overload stop (Patent pending)**
- **Interfaces:**
  RS-232,
  RS-485-4-wire,
  CANopen
  DeviceNet
- **Fast digital filtering and scaling of the measured signal**
- **Trigger function (external or level triggering)**
- **Legal for trade according to OIML R 60, 3000 d**
- **PC software for parameter setting and dynamic analysis available**

Dimensions (in mm; 1 mm = 0.03937 inches)



Specifications

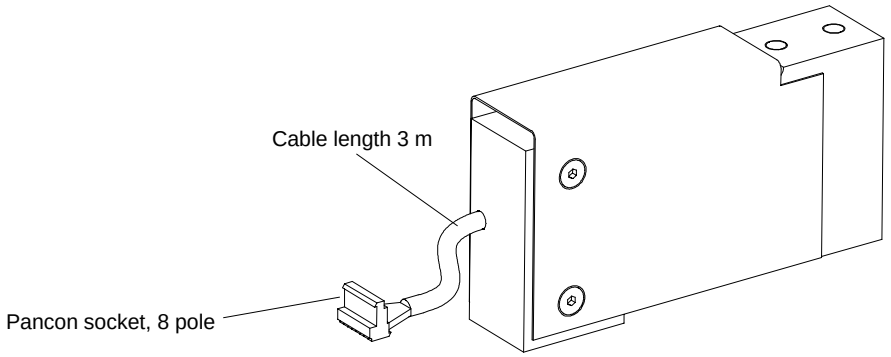
Type		PW20i		
Accuracy class according to OIML R60		**C3**		
Max. capacity (E_{max})[1)]	kg	5	10	20
Min. load cell verification interval (v_{min})	g	0.5	1	2
Min. application range for 3000 d	kg	1.5	3	6
Max. platform size (Length x Width)	mm	L400 x W400		
Max. number of load cell verification intervals (n_{LC})		3000		
Fraction (p_{LC})		1		
Temperature coefficient of the sensitivity (TK_C)[2)3)]	% of C_n/10 K	± 0.0250		
Temperature coefficient of the zero signal (TK_{SO})[3)]		± 0.0200		
Hysteresis error (d_{hy})[2)3)]	% of C_n	± 0.0166		
Non-linearity (d_{lin})[2)3)]		± 0.0166		
Creep (d_{CR}) over 30 min.		± 0.0166		
Eccentric loading error according to OIML R76		± 0.0233		
Service load (E_U) with max. 120 mm eccentricity	% of E_{max}	150		
Safe load limit (E_L) with max. 20 mm eccentricity		1000		
Permissible dyn. load (F_{srel}) with max. 50 mm eccentricity		70		
Deflection at max. capacity (s_{nom})	mm	< 0.2		
Power supply:				
Supply voltage UB1 (DC)	V	+ 12 ... +30		
Power consumption	W	≤ 1.5		
Switch-on current	A	0.15		
Resolution of measuring signal (1 Hz-Filter)	Bit	20		
Measuring rate	1/s	4 ... 1200		
Adjustable cut-off frequency of the digital filters				
Filtermode 0	Hz	80 ... 0.25		
Filtermode 1 (response time 62 ... 365 ms)	Hz	18 ... 2.5		
Baud rate (RS-232-, RS-485-interface)	Baud	1200; 2400; 4800; 9600; 19200; 38400; 57600; 115200		
Max. number of bus members		32		
CANopen interface		Standard CiA DS301		
Baud rate	Baud	10 000 ... 1 000 000		
DeviceNet interface		Release 2.0 ODVA		
Baud rate	Baud	125 000 ... 500 000		
Max. cable length (CANopen, DeviceNet)	m	≤ 5000 (10 KBaud)... ≤ 100 (500 KBaud), ≤ 25 (1 MBaud)		
Asynchronous serial interface				
RS-485, 4 wire, max. cable length	m	500		
RS-232, max. cable length	m	15		
Trigger input				
Permissible input voltage	V	0 ... +12		
Low-level	V	< 1		
High-level	V	> 4		
Input resistance	kΩ	10		
Nominal temperature range	°C [°F]	− 10 ... + 40 [+ 14 ... + 104]		
Operating temperature range	°C [°F]	− 10 ... + 50 [+ 14 ... + 122]		
Storage temperature range	°C [°F]	− 25 ... + 75 [− 13 ... + 167]		
EMC requirements		EN 45501, OIML R76 EN 61326−1/Tab. 4, equipment of class B EN 61326/A1, Tab. A1, equipment in industrial areas		
Degree of protection according to EN 60529		IP 65		
Electrical connection		Pancon socket, 8 pole		
Material		Aluminum		
Weight, approx.	kg	0.7		

1) Max. eccentric load according to OIML R76.

2) The values can be exceeded in individual cases. The resulting errors of T_{KC}, non-linearity and hysteresis don't exceed the maximum permissible errors of OIML R 60 with p_{LC}=1.

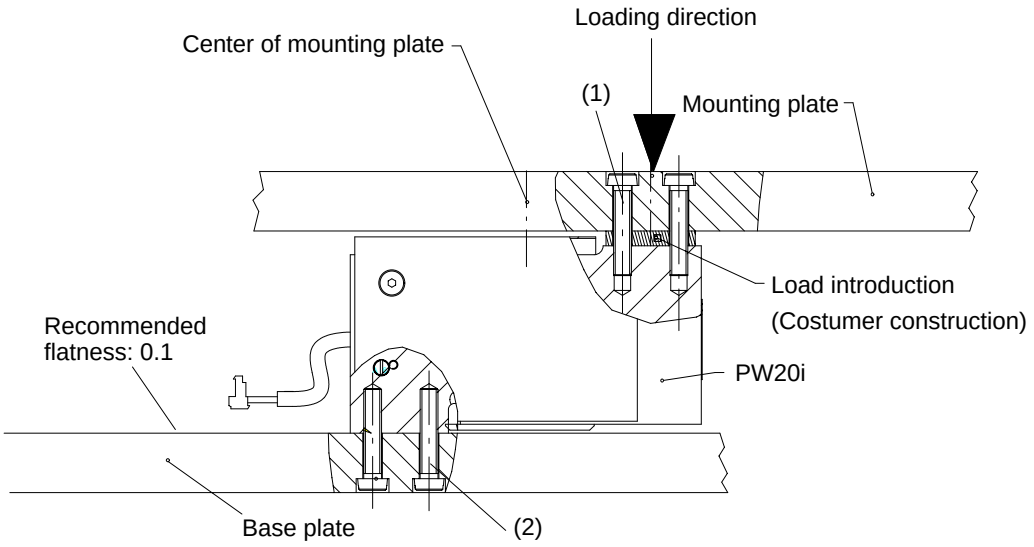
3) All relative errors are related to the output signal at max. capacity.

Electrical connections



Terminal	Color	RS-232	RS-485	CANopen	DeviceNet
1	red	12...30 V	12...30 V	12...30 V	12...30 V
2	white	GND	GND	GND	GND
3	blue	TXD	TA	CanH out	CanH out
4	green	––	RA	CanH in	CanH in
5	black	––	TB	CanL out	CanL out
6	gray	RXD	RB	CanL in	CanL in
9	yellow	Trigger	Trigger	Trigger	Trigger
8		free	free	free	free

Mounting hints



1: Attachment PW20i at load introduction: 2 x M6; property class 10.9;
tightening torque 10 N·m; max. thread reach 10 mm.
Recommended flatness 0.1 mm on connection surface

2: Attachment PW20i with base plate: 2 x M6; property class 10.9:
tightening torque 10 N·m; max. thread reach 10 mm

Accessories, to be ordered separately

1-SC232/422B = Interface converter (see separate data sheet)

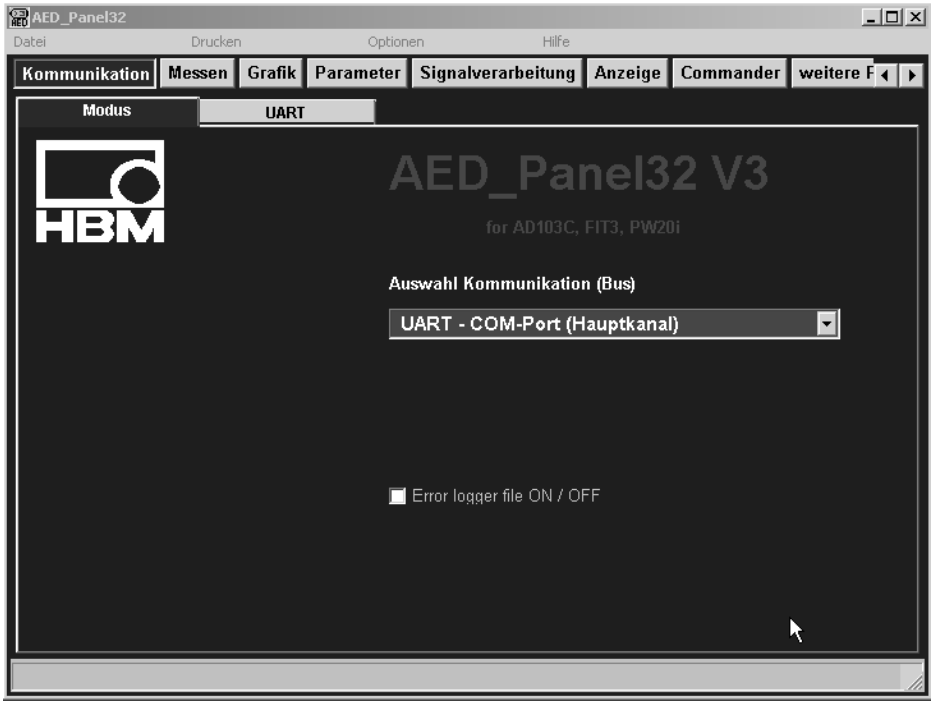
- Conversion from RS-232 to RS-422/-485 (4-wire)
- Galvanic separation
- High EMC security
- Including power supply unit and connection cable to the PC

Accessories, to be ordered separately (Continuation)

1-FIT-AED-DOC = Documentation (CD-ROM with operating manual and AED_Panel32 panel program)

- Documentation of mechanics and electronics
- Documentation of the command codes for communication with the PW20i load cell
- Software package for parameter setting and dynamic analysis of the weighing system

Short description of the PC-Software AED_Panel32 (Example screen shot see below)
for Profibus connection to a PC: Adapter CP5511, CP5611 (Siemens)
for CAN / DeviceNet connection to a PC: PCAN = USB adapter (PEAK-System Technik)



The program can be found on the CD-ROM ”1-FIT−AED−DOC” or under www.hbm.com − *Products − Software.*

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