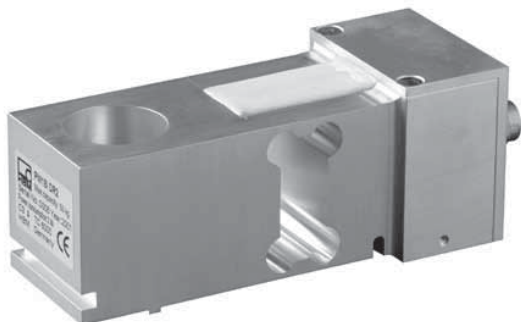
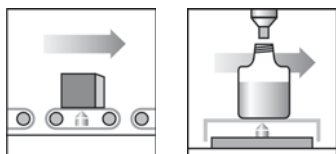


FIT[®]/0...

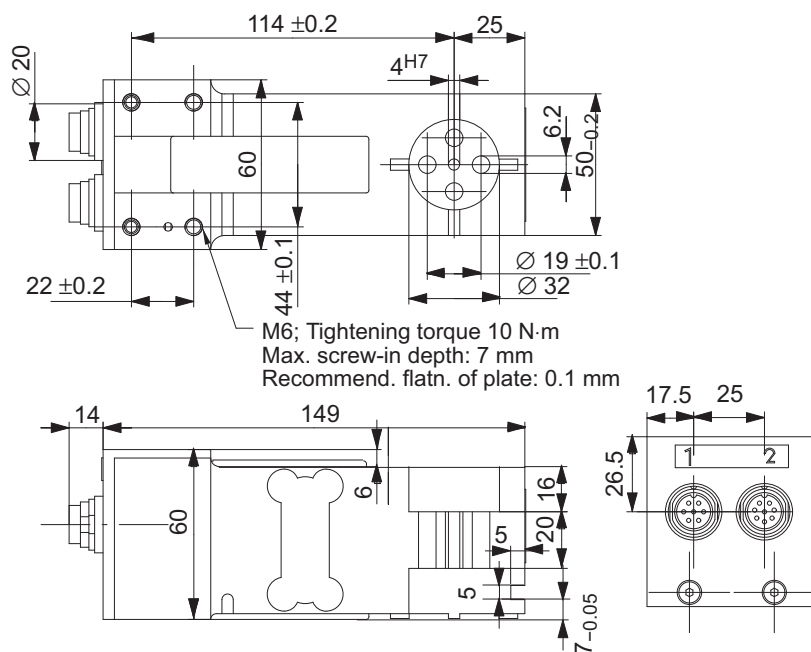
Digital load cell for
dynamical weighing

**Special features**

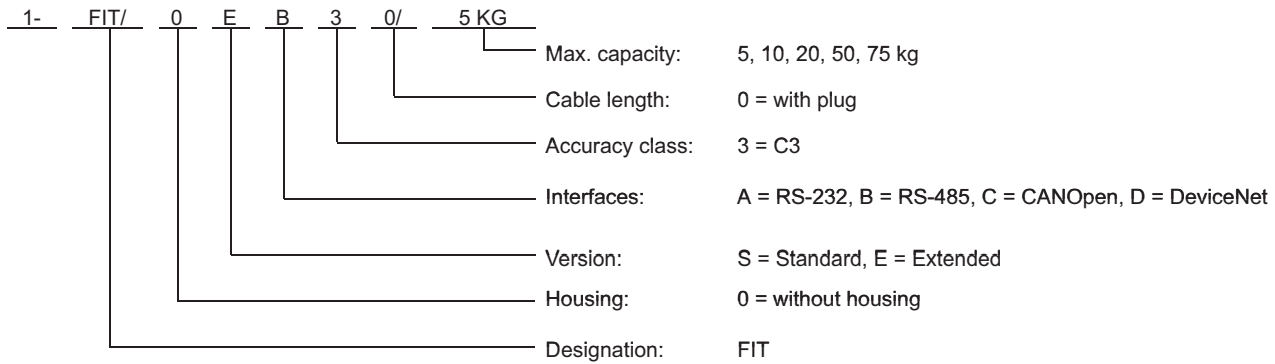
- 4 limit switches with hysteresis
- Dosing functionalities and diagnostic channel (Type E)
- High overload limits
- Degree of protection IP67
- Fast triggering and scaling of the measured value
- Trigger function (external or level trigger)
- Test report for 3000 d accord. to OIML R 60, R 76



Dimensions (in mm; 1 mm = 0.03937 inches)



The FIT/... digital load cells are available in different versions, e.g.:



HBM has defined so-called preferred variants. All other variants are available on request.

Preferred variants of the standard types

Housing	Interface			
	RS-232	RS-485 (4 wire)	CANOpen	DeviceNet
FIT/0	1-FIT/0SA30/5KG 1-FIT/0SA30/10KG 1-FIT/0SA30/20KG 1-FIT/0SA30/50KG 1-FIT/0SA30/75KG	1-FIT/0SB30/5KG 1-FIT/0SB30/10KG 1-FIT/0SB30/20KG 1-FIT/0SB30/50KG 1-FIT/0SB30/75KG	1-FIT/0SC30/5KG 1-FIT/0SC30/10KG	1-FIT/0SD30/5KG 1-FIT/0SD30/10KG
FIT/1	1-FIT/1SA31/5KG 1-FIT/1SA31/10KG 1-FIT/1SA31/20KG 1-FIT/1SA31/50KG 1-FIT/1SA31/75KG	1-FIT/1SB31/5KG 1-FIT/1SB31/10KG 1-FIT/1SB31/20KG 1-FIT/1SB31/50KG 1-FIT/1SB31/75KG 1-FIT/1SB32/5KG 1-FIT/1SB32/10KG 1-FIT/1SB32/20KG	1-FIT/1SC31/5KG 1-FIT/1SC31/10KG	1-FIT/1SD31/5KG 1-FIT/1SD31/10KG
FIT/4		1-FIT/4SB32/5KG 1-FIT/4SB32/10KG 1-FIT/4SB32/20KG		
FIT/5	1-FIT/5SA30/5KG 1-FIT/5SA30/10KG 1-FIT/1SA30/20KG		1-FIT/5SC30/5KG 1-FIT/5SC30/10KG	

Preferred variants of the extended types

In addition to the standard version (S), another extended version (E) with control functions (two connectors) is available. All versions offers additional application areas with limit values and dosing control functions (sorting systems, filling systems).

Housing	Interface			
	RS-232	RS-485 (4 wire)	CANOpen	DeviceNet
FIT/0	1-FIT/0EA30/5KG 1-FIT/0EA30/10KG 1-FIT/0EA30/20KG 1-FIT/0EA30/50KG 1-FIT/0EA30/75KG	1-FIT/0EB30/5KG 1-FIT/0EB30/10KG 1-FIT/0EB30/20KG 1-FIT/0EB30/50KG 1-FIT/0EB30/75KG	1-FIT/0EC30/5KG 1-FIT/0EC30/10KG	1-FIT/0ED30/5KG 1-FIT/0ED30/10KG
FIT/1	1-FIT/1EA31/5KG 1-FIT/1EA31/10KG 1-FIT/1EA31/20KG 1-FIT/1EA31/50KG 1-FIT/1EA31/75KG	1-FIT/1EB31/5KG 1-FIT/1EB31/10KG 1-FIT/1EB31/20KG 1-FIT/1EB31/50KG 1-FIT/1EB31/75KG	1-FIT/1EC31/5KG 1-FIT/1EC31/10KG	1-FIT/1ED31/5KG 1-FIT/1ED31/10KG
FIT/4	-	1-FIT/4EB31/5KG 1-FIT/4EB31/10KG 1-FIT/4EB32/5KG 1-FIT/4EB32/10KG	1-FIT/4EC31/5KG 1-FIT/4EC31/10KG	1-FIT/4ED31/5KG 1-FIT/4ED31/10KG
FIT/5	1-FIT/5EA30/5KG 1-FIT/5EA30/10KG	1-FIT/5EB30/5KG 1-FIT/5EB30/10KG	1-FIT/5EC30/5KG 1-FIT/5EC30/10KG	1-FIT/5ED30/5KG 1-FIT/5ED30/10KG

 = for these load cell types separate data sheets are available

Specifications

Type		FIT/0...				
Accuracy class according to OIML R60		C3				
Max. capacity (E_{max})	kg	5	10	20	50	75
Min. load cell verification interval (v_{min})	g	0.5	1	2	5	10
Min. application range for 3000 d	kg	1.5	3	6	15	30
Max. platform size	mm	L 400 x W 400			L 600 x W 500	
Max. number of load cell verification intervals (n_{LC})		3000				
Apportionment factor (p_{LC})		1				
Temperature effect on sensitivity (TK_C) ^{1) 2)} in temperature range 0 °C...+40 °C [32 °F...+104 °F] Temperature effect on zero signal (TK_{S0}) ²⁾	% of $C_n/10K$	±0.0250 ±0.0200				
Hysteresis factor (d_{hy}) ^{1) 2)} Nonlinearity (d_{lin}) ^{1) 2)} Creep (d_{CR}) over 30 min Eccentric loading error acc. to OIML R76	% of C_n	±0.0166 ±0.0166 ±0.0166 ±0.0233				
Service load (E_U); max. 120 mm eccentricity Safe load limit (E_L); max. 20 mm eccentricity Permissible dyn. load (F_{srel}) max. 50 mm eccentricity	% of E_{max}	150 300 (without overload protection) 70				
Deflection at max. capacity (s_{nom})	mm	< 0.15				
Power supply: Supply voltage UB1 (DC) Power consumption Switch-on current	V W A	+ 10 ... +30 ≤ 2 0.2				
Resolution of meas. signal (1 Hz-Filter) Measuring rate Adjustable cut-off frequency of the digital filters: Filtermode 0 Filtermode 1 (response time 62 ... 365 ms) Baud rate (RS-232-, RS-485-interface) Max. number of bus members	Bit 1/s Hz Hz Baud	20 4 ... 1200 200 ... 0.25 18 ... 2.5 1200; 2400; 4800; 9600; 19200; 38400; 57600; 115200 90				
CANOpen interface Baud rate	Baud	Standard CiA DS301 10 000 ... 1 000 000				
DeviceNet interface Baud rate	Baud	Release 2.0 ODVA 125 000 ... 500 000				
max. cable length (CANOpen, DeviceNet)	m	≤ 5000 (10KBaud)... ≤ 100 (500KBaud), ≤ 25 (1MBaud)				
Diagnostic channel, RS-485-2-wire (extended version E, plug 2) Baud rate max. cable length Max. number of bus members	Baud m	38 400 500 90				
Asynchronous serial interface (plug 1) RS-485, 4 wire, max. cable length RS-232 max. cable length	m m	500 15				
Trigger input (plug 1) Permissible input voltage Low-level High-level Input resistance	V V V kΩ	0 ... +12 < 1 > 4 10				
Control inputs (extended version E, plug 2) Permissible input voltage Low-level High-level Input resistance	V V V kΩ	isolated, reference potential GND2 0 ... +30 < 6 > 10 > 3				
Control outputs (extended version E, plug 2) External supply voltage UB2 Max. current of one output Accumulated current of all outputs Voltage drop	V A A V	isolated, reference potential GND2 +11 ... +30 < 0.5 < 1.0 < 1				

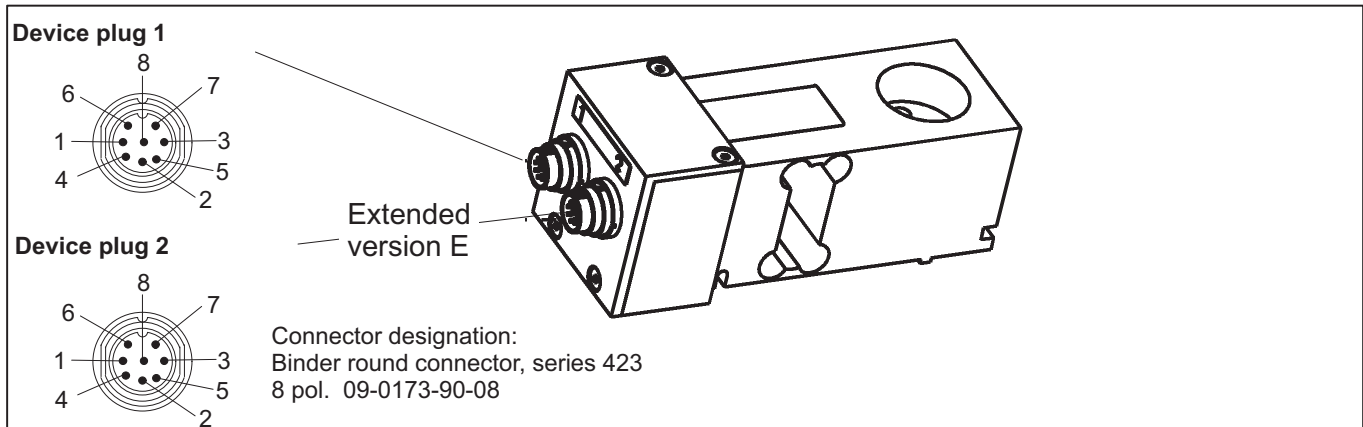
1) The values can be exceeded in individual cases. The resulting errors of TK_C , nonlinearity and hysteresis don't exceed the maximum permissible errors of OIML R 60 with $p_{LC} = 1$.

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

Specifications (continuation)

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 acc. to EN 60529		IP 67
Connector		Binder connector, series 423, 8-pole
Material, Housing		Aluminum
Diaphragm		Silicone R830
Weight, approx.	kg	1.5

Wiring assignment



Device plug 1				Device plug 2 (ext. version E)	
Pin-No.	RS-232	RS-485	CANOpen/DeviceNet	Pin-No.	
8 ¹⁾	Diagnostic Rb/Tb	Diagnostic Rb/Tb	Diagnostic /Rb/Tb	8	IN 2
7 ¹⁾	Diagnostic Ra/Ta or Trigger	Diagnostic Ra/Ta or Trigger	Diagnostic Ra/Ta or Trigger	7	IN 1
4	-	RB	CanL in	4	OUT 4
3	-	TB	CanL out	3	OUT 3
2	RxD	RA	CanH in	2	OUT 2
1	TxD	TA	CanH out	1	OUT 1
6	GND1	GND1	GND 1	6	GND 2
5	+UB 1	+UB 1	+UB 1	5	UB 2

¹⁾ The standard version (S) does not have a diagnostic channel. Pin 8 not assigned, Pin 7 is trigger input

Accessories, to be ordered separately

Connection cable

Material: TPE, Ø7 ±0.5 mm, Connector / free cable ends

Cable (8 cores)	1-Kab148-3 ¹⁾	1-KAB148-6 ¹⁾	1-KAB148-12 ¹⁾
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^{*)} The cable is suitable only for experimental purposes for the structure of CANOpen and DeviceNet bus systems (the characteristic wave impedance does not correspond to the CANOpen specifications)

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

- Documentation of mechanics and electronics
- Documentation of command codes for the communication with the FIT/0... load cell
- Software package for parameter setting and dynamic analysis of the weighing system

1-FIT-AED-KIT = Starter kit for CANOpen and DeviceNet

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