



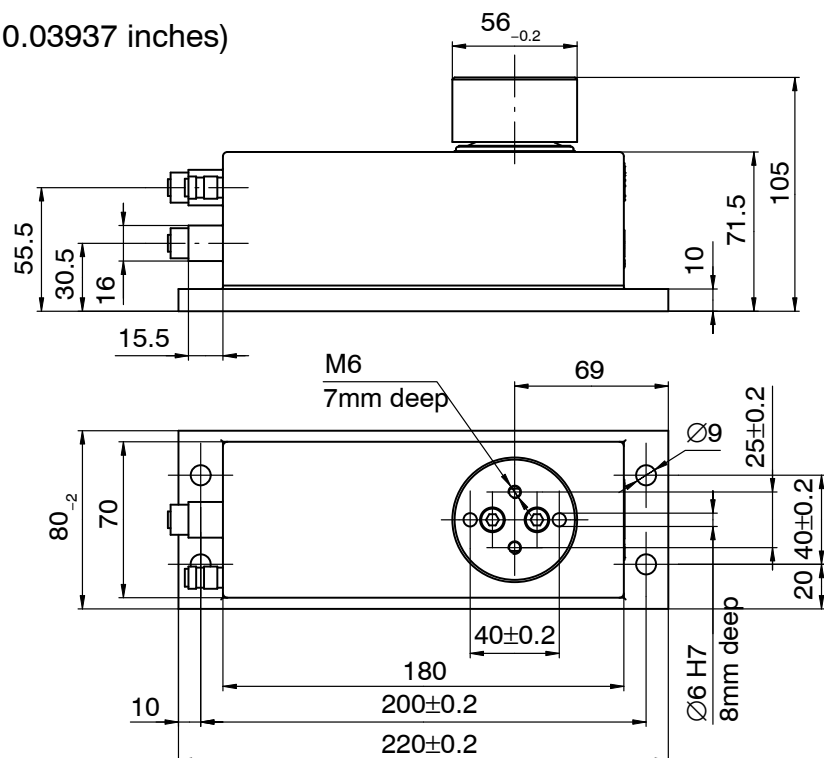
FIT[®] 7A

Digital load cell for dynamic weighing

Special features

- Accuracy class up to C4 and maximum scale interval factor Y up to 25,000 with OIML R60 test report
- Off-center load compensated (OIML R76)
- Dosing mode
- 4 limit value switches
- Trigger mode (external or level)
- Automatic parameterization for dynamic applications
- Stainless steel
- Degree of protection IP66
- Integral overload protection
- PC software for parameter setup and dynamic analysis
- Various options and accessories are available

Dimensions (in mm; 1 mm = 0.03937 inches)



Specifications

Type			FIT7A								
Accuracy class ¹⁾			C3								
Number of load cell verification intervals			3000								
Fraction			0.8								
Maximum capacity			E_{max}	kg	3	5	10	20	30	50	75
Minimum load cell verification interval (standard and option 6 = VA)			v_{min}	g	0.5		1	2	5		10
Maximum scale interval factor Y (standard and option 6 = VA)			Y		6000	10,000		6000	10,000	7500	
Temperature coefficient of the zero signal per 10 K (standard and option 6 = VA)			TC_0	% of C_n	± 0.0266	± 0.0160		± 0.0266	± 0.0160	± 0.0213	
Maximum platform size (L x W)				mm	400 x 400			600 x 500			
Nominal (rated) sensitivity			C_n		1,000,000						
Zero signal				digit	0 \pm 100,000						
Temperature coefficient of the sensitivity per 10 K ³⁾ in the temperature range +20 ... +40°C -10 ... +20°C			TC_S	% of C_n	± 0.0200						
Non-linearity ³⁾			d_{lin}		± 0.0133						
Relative reversibility error ³⁾			d_{hy}		± 0.0166						
Minimum dead load output return			$MDLOR$		± 0.0166						
Off-load error ²⁾					± 0.0166						
Nominal (rated) ambient temperature range			B_T	°C	-10 ... +40						
Operating temperature range			B_{tu}		-10 ... +50						
Storage temperature range			B_{tl}		-10 ... +70						
Limit load at 20 mm eccentricity			E_L	% of E_{max}	1000						
Service load at centric load input					150						
Relative vibrational stress at max. 50 mm eccentricity			F_{srel}		70						
Nominal (rated) displacement ⁴⁾			s_{nom}	mm	< 0.1						
Weight, approx.			m	kg	3						
Degree of protection per DIN EN 60529 (IEC 529)					IP66 ⁵⁾						
Voltage supply											
Operating voltage (DC)			U_B	V	+10 ... +30						
Power consumption				W	≤ 2						
Start-up current				A	< 0.2						
Material											
Housing					Stainless steel 1.4545 ⁶⁾						
Diaphragm					Silicone rubber R830						
Bonded seals					Stainless steel 316L ⁷⁾						
Base plate					Stainless steel 1.4301 ⁶⁾						

¹⁾ As per OIML R60, with $P_{LC} = 0.8$.

²⁾ As per OIML R76.

³⁾ The values for non-linearity (d_{lin}), relative reversibility error (d_{hy}) and temperature coefficient of sensitivity (TC_S) are recommended values. The sum of these values is within the cumulated error limits according to OIML R60.

⁴⁾ Loading with E_{max} and center of gravity in center of platform.

⁵⁾ When vent hose is properly connected.

⁶⁾ As per EN 10088-1.

⁷⁾ Gaskets may need protecting against aggressive cleaning agents.

Specifications (continued)

Type			FIT7A						
Accuracy class ¹⁾			C4						
Number of load cell verification intervals	n_{LC}		4000						
Fraction	P_{lc}		0.8						
Maximum capacity	E_{max}	kg	3	5	10	20	30	50	75
Minimum load cell verification interval (standard and option 6 = VA)	v_{min}	g	0.5		1	2	5		10
Maximum scale interval factor Y (standard and option 6 = VA)	Y		6000	10,000		6000	10,000	7500	
Temperature coefficient of the zero signal per 10 K (standard and option 6 = VA)	TC_0	% of C_n	± 0.0266	± 0.0160		± 0.0266	± 0.0160	± 0.0213	
Maximum platform size (L x W)		mm	400 x 400				600 x 500		
Nominal (rated) sensitivity	C_n	digit	1,000,000						
Zero signal			$0 \pm 100,000$						
Temperature coefficient of the sensitivity per 10 K ²⁾³⁾ in the temperature range +20 ... +40°C -10 ... +20°C	TC_S	% of C_n	± 0.0149						
Non-linearity ³⁾	d_{lin}		± 0.0100						
Relative reversibility error ³⁾	d_{hy}		± 0.0125						
Minimum dead load output return	$MDLOR$		± 0.0125						
Off-center load error ²⁾			± 0.0125						
Nominal (rated) ambient temperature range	B_T		°C	-10 ... +40					
Operating temperature range	B_{tu}	-10 ... +50							
Storage temperature range	B_{tl}	-25 ... +70							
Limit load at 20 mm eccentricity	E_L	% of E_{max}	1000						
Service load at centric load input			150						
Relative vibrational stress at max. 50 mm eccentricity	F_{srel}		70						
Nominal (rated) displacement ⁴⁾	s_{nom}	mm	< 0.1						
Weight, approx.	m	kg	3						
Degree of protection per DIN EN 60529 (IEC 529)			IP66 ⁵⁾						
Voltage supply									
Operating voltage (DC)	U_B	V	+10 ... +30						
Power consumption		W	≤ 2						
Start-up current		A	< 0.2						
Material									
Housing			Stainless steel 1.4545 ⁶⁾						
Diaphragm			Silicone rubber R830						
Bonded seals			Stainless steel 316L ⁷⁾						
Base plate			Stainless steel 1.4301 ⁶⁾						

¹⁾ As per OIML R60, with $P_{LC} = 0.8$.

²⁾ As per OIML R76.

³⁾ The values for non-linearity (d_{lin}), relative reversibility error (d_{hy}) and temperature coefficient of sensitivity (TC_S) are recommended values. The sum of these values is within the cumulated error limits according to OIML R60.

⁴⁾ Loading with E_{max} and center of gravity in center of platform.

⁵⁾ When vent hose is properly connected.

⁶⁾ As per EN 10088-1.

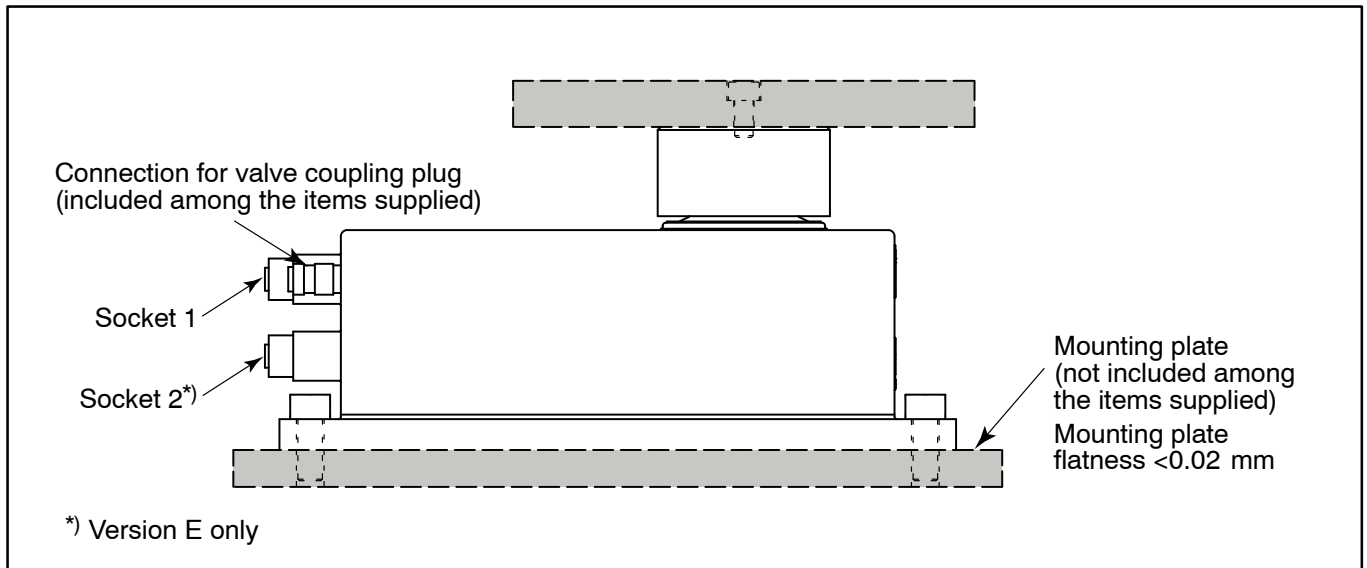
⁷⁾ Gaskets may need protecting against aggressive cleaning agents.

Specifications (continued)

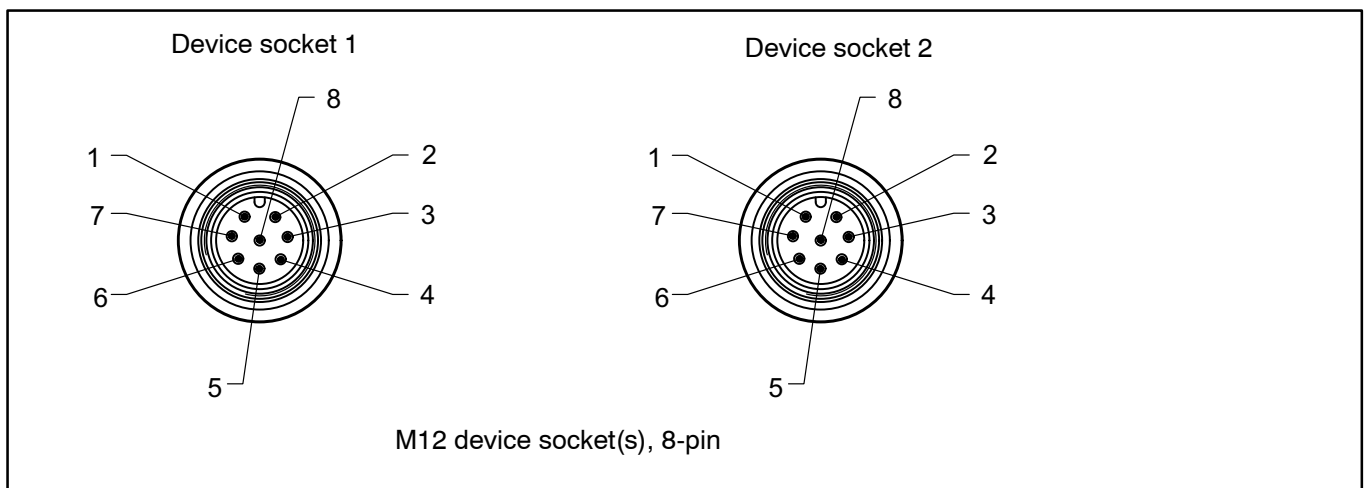
Type		FIT7A
Measurement signal resolution	bit	24
Data rate	1/s	4 ... 1200
Digital filter bandwidth	Hz	0 ... 120
RS-485 interface baud rates	baud	1200/2400/4800/9600/19200/38400/57600/115200
Maximum number of bus nodes		90
CANopen interface (CANopen/DeviceNet)		Standard CiA DS301
Baud rate	baud	10000 ... 1000000
Maximum cable length	m	≤ 5000 (10 kBaud) ... ≤ 100 (500 kBaud) ... ≤ 25 (1 MBaud)
DeviceNet		Release 2.0 DVA
Baud rate	baud	125000 ... 500000
Maximum cable length	m	≤ 5000 (10 kBaud) ... ≤ 100 (500 kBaud)
Diagnostics bus RS-485 2-wire (extended version E)		
Baud rate	baud	38400
Maximum cable length	m	500
Asynchronous interface RS-485 4-wire (socket 1)		
Baud rate	baud	1200/2400/4800/9600/19200/38400/57600/115200
Maximum cable length	m	500
Trigger input (socket 1)		
Input voltage	V	0 ... +12
Low level	V	< 1
High level	V	> 4
Input resistance	kΩ	70
Control inputs (extended version E, socket 2) ¹⁾		
Input voltage	V	0 ... +30
Low level	V	< 6
High level	V	> 10
Input resistance	kΩ	9
Control outputs (extended version E, socket 2) ¹⁾		
External supply voltage	V	+11 ... +30
Max. current per output	A	< 0.5
Max. total current of all outputs	A	< 1

¹⁾ The signals apply to GND of socket 1.

Mounting instructions



Electrical connection



Connection	Device socket 1	
	RS-485	CANopen/DeviceNet
1	GND	GND
2	Diag RbTb ¹⁾ or not used	Diag RbTb ¹⁾ or not used
3	RA	CAN-High IN
4	Diag RaTa ¹⁾ or trigger	Diag RaTa ¹⁾ or trig- ger
5	RB	CAN-Low IN
6	TB	CAN-Low OUT
7	TA	CAN-High OUT
8	U _{B1}	U _{B1}

Connection	Device socket 2 (version E) ²⁾	
1	–	
2	IN2	
3	OUT2	
4	IN1	
5	OUT4	
6	OUT3	
7	OUT1	
8	U _{B2}	

¹⁾ Standard version S does not have a diagnostics bus and pin 2 of socket 1 must not be connected. Pin 4 of socket 1 is then the trigger input.

²⁾ The signals apply to GND of socket 1.

Accessories

Suitable connection cables

Type	Ordering number
Connection cable with M12 M plug, 8-pin, TPU IP67, PUR cable sheath, 3 m long	1-KAB165-3
Connection cable with M12 M plug, 8-pin, TPU IP67, PUR cable sheath, 6 m long	1-KAB165-6
Connection cable with M12 M plug, 8-pin, TPU IP67, PUR cable sheath, 12 m long	1-KAB165-12
Connection cable with M12 M plug, 8-pin, stainless steel IP68/IP69K, TPE cable sheath, 3 m long	1-KAB173-3-1
Connection cable with M12 M plug, 8-pin, stainless steel IP68/IP69K, TPE cable sheath, 6 m long	1-KAB173-6-1

Additional connection cable data can be found in the HBM cables and plugs data sheet (B3643).

Product numbers (overview)

Type	1-FIT7A	
Accuracy class	C3 (OIML)	
Maximum capacity	Ordering number	Remarks
10 kg	1-FIT7AEB3/10KG	2 sockets, RS-485, with inputs and outputs
10 kg	1-FIT7ASB3/10KG	1 socket, RS-485
20 kg	1-FIT7AEB3/20KG	2 sockets, RS-485, with inputs and outputs
20 kg	1-FIT7ASB3/20KG	1 socket, RS-485

K-FIT7A..., optional versions

Order no.
K-FIT7A

Code	Option 1: Mechanical design
N	Standard

Code	Option 2: Accuracy class
C3	C3
C4	C4

Code	Option 3: Maximum capacity
3	3 kg
5	5 kg
10	10 kg
20	20 kg
30	30 kg
50	50 kg
75	75 kg

Code	Option 4: Explosion protection
N	No ATEX

Code	Option 5: Electrical connection
N	Socket

Code	Option 6: Miscellaneous
VA	3, 30 kg: Y = 6000; 5, 10, 20, 50 kg: Y = 10,000; 75 kg: Y = 7500
VB	3, 30, 75 kg: Y = 15,000; 50 kg: Y = 25,000; 10, 20 kg: Y = 20,000

Code	Option 7: Interface
B	Serial interface RS-485
C	Serial interface CANopen
D	Serial interface DeviceNet

Code	Option 8: Variant
S	1 socket, with trigger
E	2 sockets, with diagnostics bus as well as inputs and outputs

K-FIT7A - **N** - **C3** - **20** - **N** - **N** - **VA** - **B** - **E**

Subject to modifications.
All product descriptions are for general information only. They
are not to be understood as a guarantee of quality or durability.

Hottinger Baldwin Messtechnik GmbH

Im Tiefen See 45 · 64293 Darmstadt · Germany
Tel. +49 6151 803-0 · Fax: +49 6151 803-9100
Email: info@hbm.com · www.hbm.com

measure and predict with confidence

