

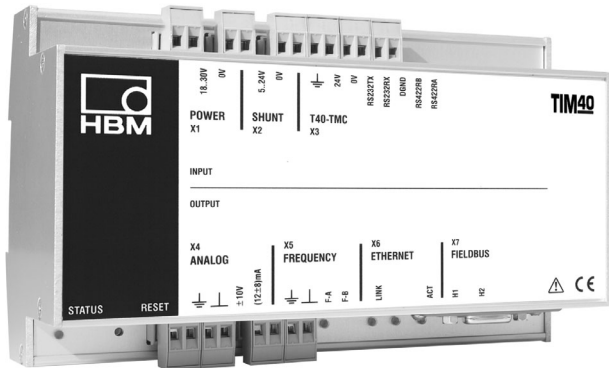
TIM40

Torque interface module

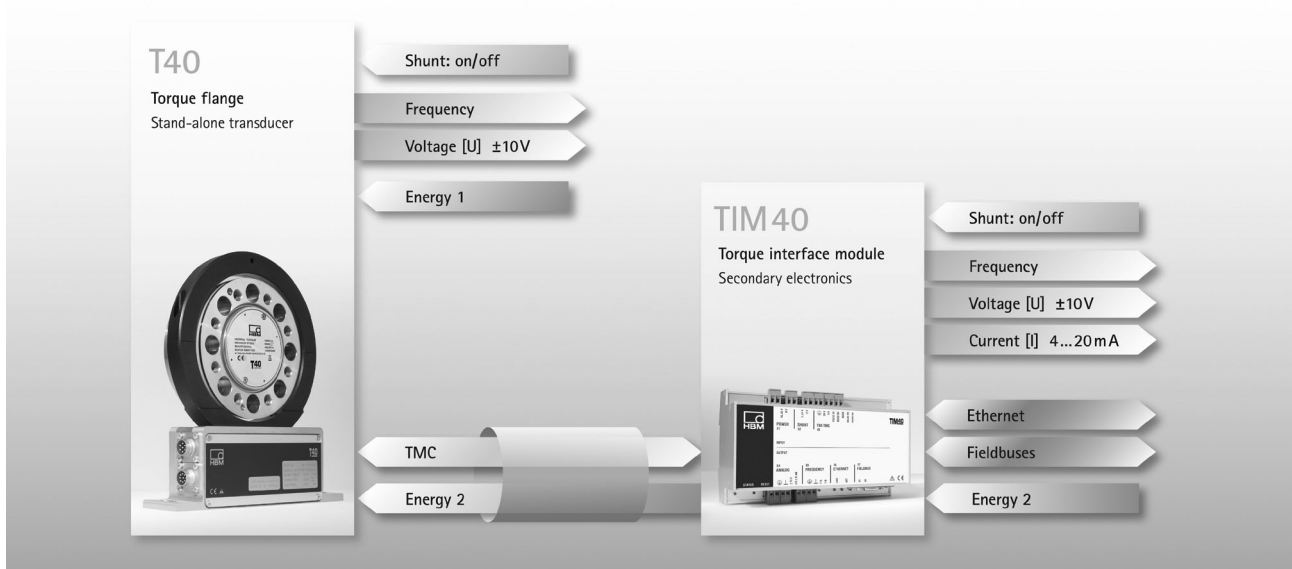
Special features

- Connection of T40 torque flange
- Mounting on support rail per DIN EN 60715
- Scaling, filtering and zeroing of the torque signal
- Wide measurement frequency range up to 10 kHz (-3 dB)
- ± 10 V and (12 ± 8) mA output signals
- Various Anybus® modules available as accessories

Data sheet



Overall concept



Specifications

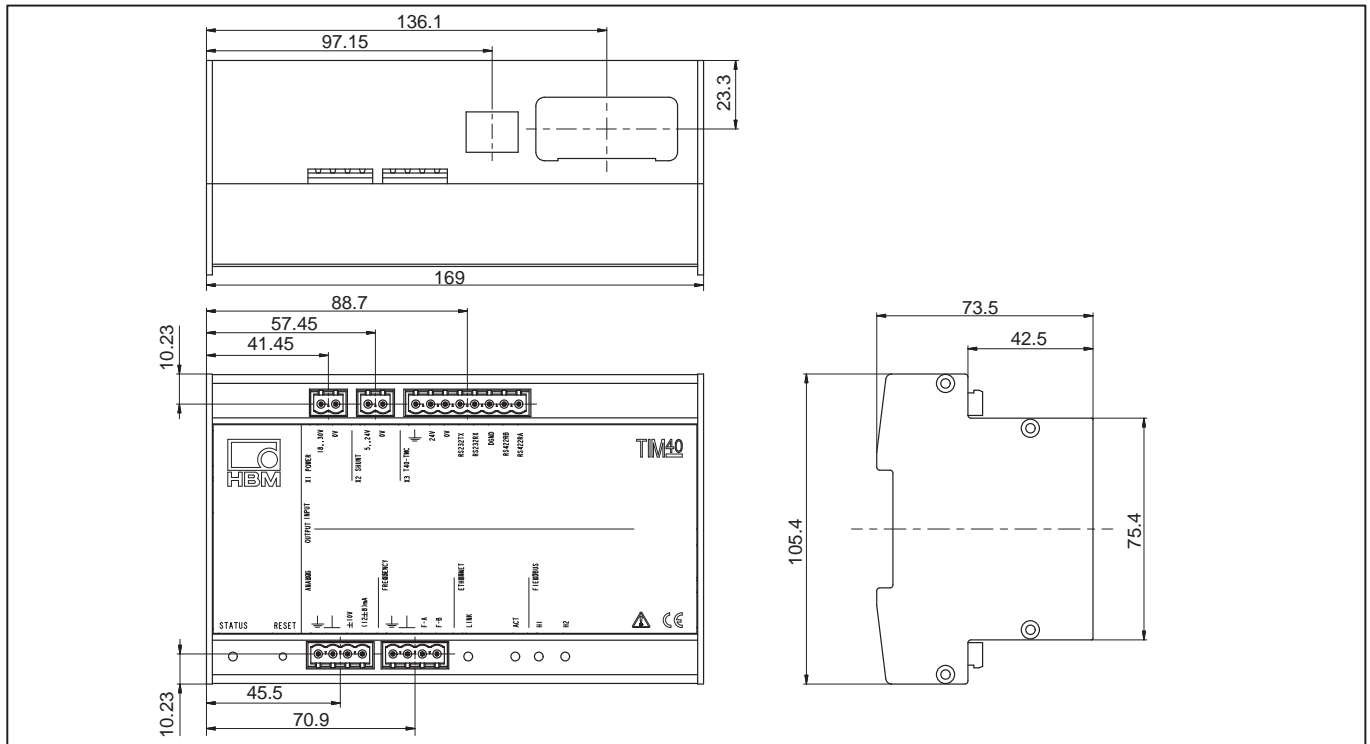
Type		TIM40	
Accuracy class		0.05	
Energy supply			
Nominal (rated) supply voltage	V	18 ... 30	
Nominal (rated) power consumption	W	< 20 W	
Transducers that can be connected		HBM's T40 Torque Flange	
Inputs			
Max. cable length	m	50	
Control signal input shunt			
Input level "On"	V	> 2.5	
Input level "Off"	V	< 1.5	
Max. input voltage	V	36	
Max. input current at 24 V	mA	24	
Outputs			
Frequency output			
Nominal (rated) output signal at	10 kHz	kHz	10±5
	60 kHz	kHz	60±30 ¹⁾
	240 kHz	kHz	240±120
Max. modulation range at	10 kHz	kHz	4 ... 16
	60 kHz	kHz	24 ... 96
	240 kHz	kHz	96 ... 384
Output signal in case of error		kHz	0
Level		V	5 symmetrical ²⁾
Max. group delay (scaled, without filter)		µs	200
Voltage output			
Nominal (rated) output signal		V	-10.0 ... +10.0
Max. modulation range		V	-12.0 ... +12.0
Output signal in case of error		V	12.5 ... 15
Resolution		mV	0.5
Measurement frequency range (-3 dB)		Hz	0 ... 10000
Load resistance		kΩ	≥ 5
Long-term drift over 48 h		mV	±5
Current output			
Nominal (rated) output signal		mA	12±8
Max. modulation range		mA	3.4 ... 21.6
Output signal in case of error		mA	23 up to 25
Measurement frequency range (-3 dB)		Hz	0 ... 8000
Burden		Ω	≤ 500
Digital low-pass filter (Bessel; can be switched off)			
Low-pass filter TP 1 (-1 dB)		Hz	1; 10; 100; 1000; 3000
Low-pass filter TP 2 (-1 dB)		Hz	1; 10; 100; 1000; 3000
Effect of temperature per 10 K in the nominal (rated) temperature range on the zero signal, related to the nominal (rated) sensitivity			
Voltage output		%	0.05
Current output		%	0.05

Type		TIM40										
Fieldbuses												
Ethernet interface		MBit/s		10 and 100								
Baud rate				RJ45								
Connection				TCP/IP, UDP, DHCP								
Protocol												
Slots for fieldbus modules		Number		1								
Format				Anybus [®] -CC								
Protocol				Profibus-DP, CANopen								
Fieldbuses												
CAN Bus												
Protocol		-		CAN 2.0B, CAL/CANopen compatible								
Hardware bus link				according to ISO 11898								
Sampling rate		Mv/s		max. 1000 (PDO)								
Baud rate		kBaud		10	20	50	100	125	250	500	800	1000
Maximum line length		m		5000	2500	1000	500	500	250	100	50	25
Profibus DP												
Protocol				Profibus DP Slave, according to DIN 19245-3								
Max. update rate		Mv/s		1000								
Baud rate		MBaud		max. 12								
Environmental requirements												
Degree of protection per EN 60 529				IP20								
Weight, approx.		kg		0.65								
Nominal (rated) temperature range		°C [°F]		0 ... +60 [+32 ... +140]								
Operating temperature range		°C [°F]		-10 ... +60 [+14 ... +140]								
Permissible relative humidity, non-condensing		%		10 ... 90								
Mechanical stress												
Vibration resistance (test per EN60068-2-6)												
Frequency range		Hz		5 ... 65								
Duration		h		0.5								
Acceleration (amplitude)		m/s ²		25								
Impact resistance (test per EN60068-2-27)												
Number of impacts		n		3 in each direction								
Duration		ms		11								
Acceleration (half cosine)		m/s ²		200								
EMC requirements												
EMC				According to EN 61326:2006, industrial environment								
Emission (EME)				DIN EN 61326:2006, Class A								
Immunity from interference				DIN EN 61326:2006, industrial environment								
Conducted HF				EN61000-4-6, 10V								

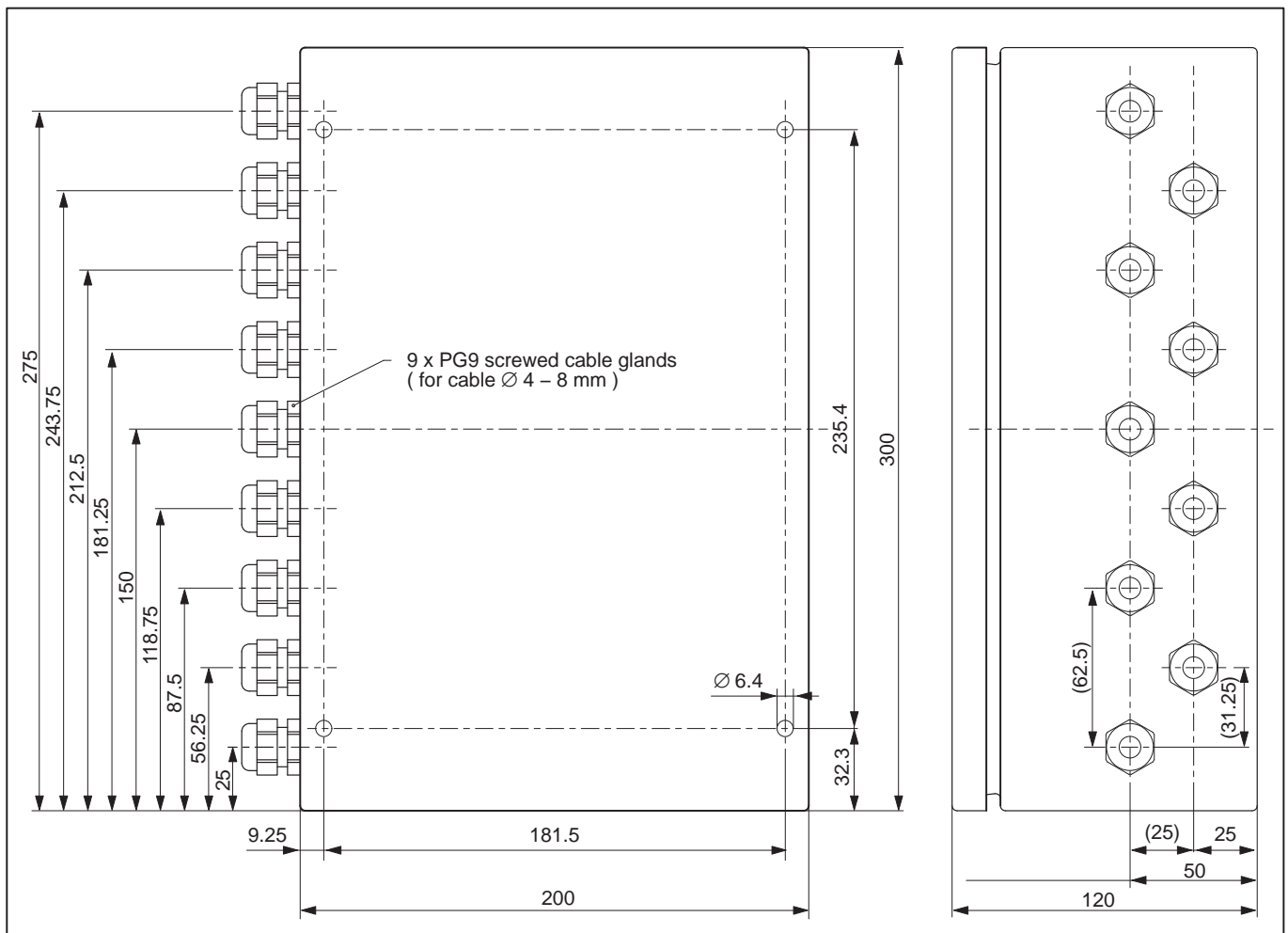
1) Factory settings

2) Complementary signals per RS-422, observe terminating resistors

TIM40 dimensions



Dimensions of the protective housing



Accessories, to be ordered separately

Article	Order No.
Connection cable, ready-made	
Connection cable TIM40, Binder 423 8-pole - free ends, 6 m	1-KAB174-6
Protective housing for TIM40; protection class IP67; 9 screwed cable glands (clamping range 4.5 mm-10 mm)	3-6440.0148
Anybus[®] modules	
Anybus [®] -CompactCom-CANopen	1-ANYBUS-CAN
Anybus [®] -CompactCom-PROFIBUS DP	1-ANYBUS-PROFI

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 Brüel & Kjaer 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

