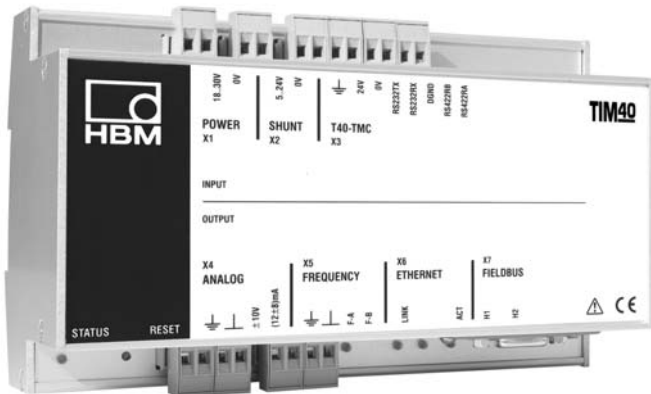


# TIM 40

## 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)
- $\pm 10$  V and  $(12 \pm 8)$  mA output signals
- Ethernet interface with 38125 measured values per second
- Various Anybus<sup>®</sup> modules available as accessories

### Overall concept



## Specifications

Type		TIM40	
<b>Accuracy class</b>		0.05	
<b>Energy supply</b>			
Nominal (rated) supply voltage	V	18 ... 30	
Nominal (rated) power consumption	W	< 20 W	
<b>Transducers that can be connected</b>		HBM's T40 Torque Flange	
<b>Inputs</b>			
Max. cable length		m	50
<b>Control signal input shunt</b>			
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	
<b>Outputs</b>			
<b>Frequency output</b>			
Nominal (rated) output signal at	10 kHz	kHz	10 ± 5
	60 kHz	kHz	60 ± 30 <sup>1)</sup>
	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 <sup>2)</sup>	
Max. group delay (scaled, without filter)	µs	200	
<b>Voltage output</b>			
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	
<b>Current output</b>			
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	
<b>Digital low-pass filter (Bessel; can be switched off)</b>			
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	
<b>Effect of temperature per 10 K in the nominal (rated) temperature range on the zero signal, related to the nominal (rated) sensitivity</b>			
Voltage output	%	0.05	
Current output	%	0.05	
<b>Fieldbuses</b>			
<b>Ethernet interface</b>			
Baud rate	MBit/s	10 and 100	
Connection		RJ45	
Protocol		TCP/IP, UDP, DHCP	
<b>Slots for fieldbus modules</b>			
Format	Number	1	
Protocol		Anybus <sup>®</sup> -CC Profibus-DP, CANopen	

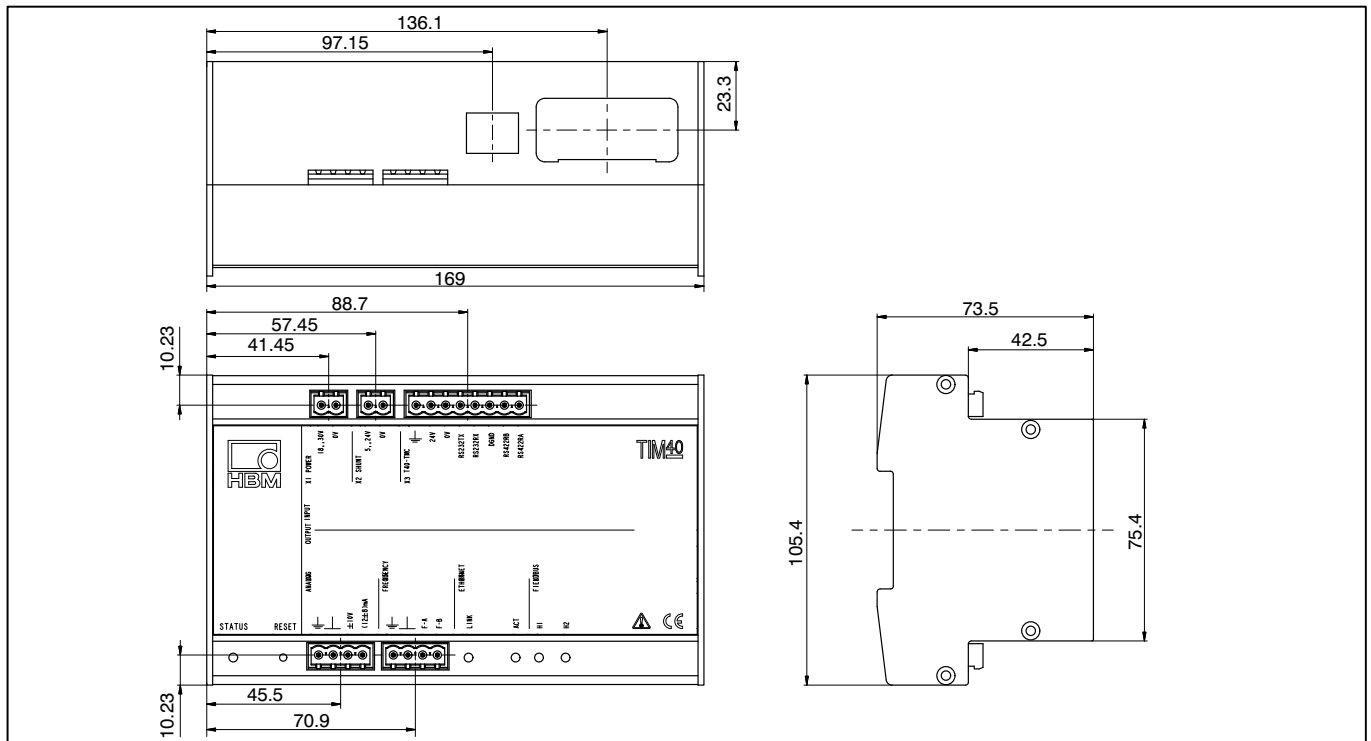
<sup>1)</sup> Factory settings

<sup>2)</sup> Complementary signals per RS-422, observe terminating resistors

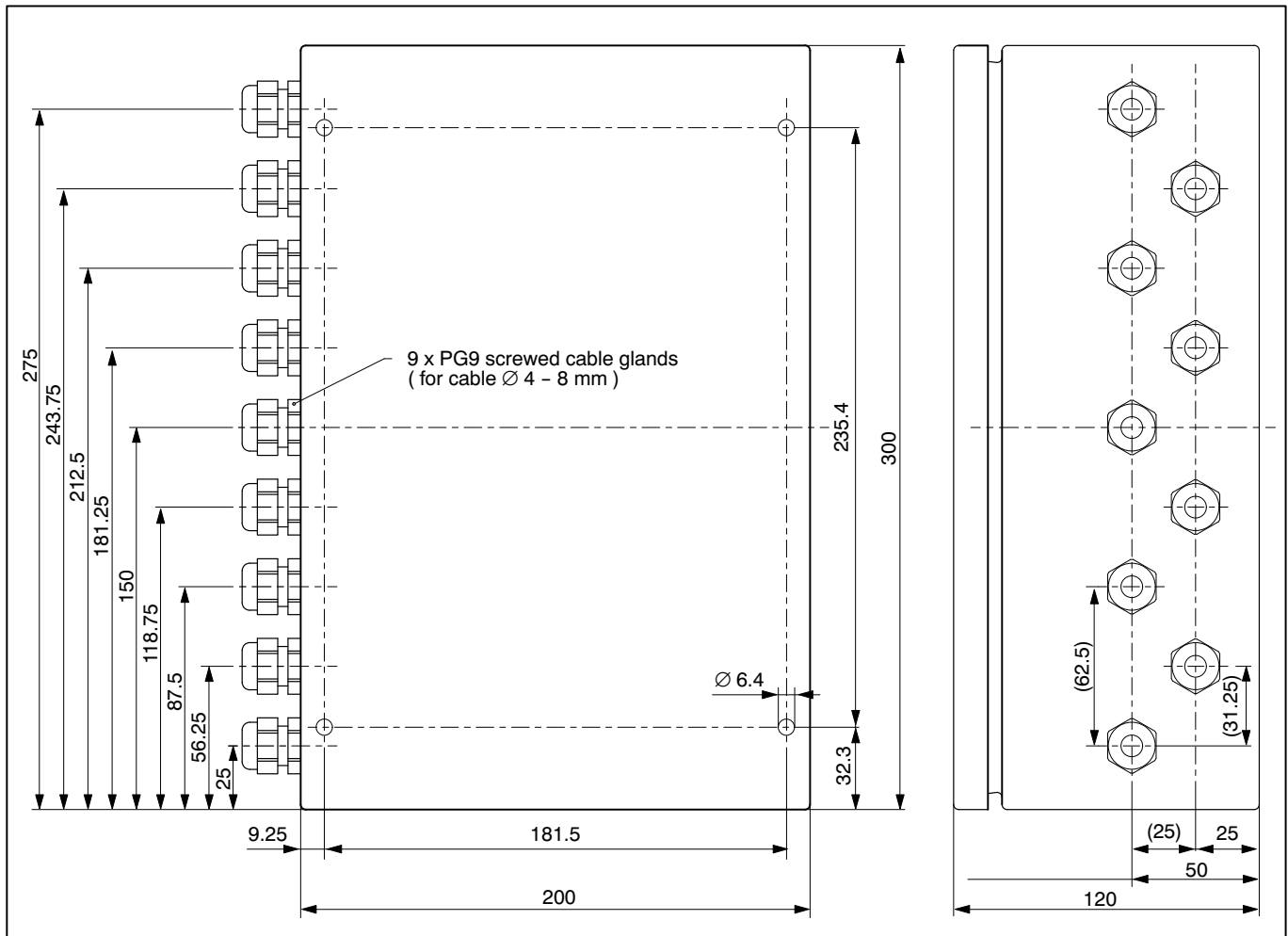
## Specifications (Continued)

Fieldbuses										
<b>CAN Bus</b>										
Protocol	-	CAN 2.0B, CAL/CANopen compatible according to ISO 11898								
<b>Hardware bus link</b>		max. 1000 (PDO)								
Sampling rate	Mv/s									
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
<b>Profibus DP</b>										
<b>Protocol</b>		Profibus DP Slave, according to DIN 19245-3								
Max. update rate	Mv/s	1000								
Baud rate	MBaud	max. 12								
<b>Environmental requirements</b>										
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								
<b>Mechanical stress</b>										
<b>Vibration resistance (test per EN60068-2-6)</b>										
Frequency range	Hz	5 ... 65								
Duration	h	0.5								
Acceleration (amplitude)	m/s <sup>2</sup>	25								
<b>Impact resistance (test per EN60068-2-27)</b>										
Number of impacts	n	3 in each direction								
Duration	ms	11								
Acceleration (half cosine)	m/s <sup>2</sup>	200								
<b>EMC requirements</b>										
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								

## TIM40 dimensions



## Dimensions of the protective housing



## Accessories, to be ordered separately

Article	Order No.
<b>Connection cable, ready-made</b>	
Connection cable TIM40, Binder 423 8-pole - free ends, 6 m	1-KAB169-6
Protective housing for TIM40; protection class IP67; 9 screwed cable glands (clamping range 4.5 mm-10 mm)	3-6440.0148
<b>Anybus<sup>®</sup> modules</b>	
Anybus <sup>®</sup> -CompactCom-CANopen	1-ANYBUS-CAN
Anybus <sup>®</sup> -CompactCom-PROFIBUS DP	1-ANYBUS-PROFI

Modifications reserved.

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