HEIDENHAIN

Product Information

Output Cable for
ECI 1319
EBI 1335
EQI 1331
ECN 1325
EQN 1337

With M23 SpeedTEC angle flange socket for HMC 2

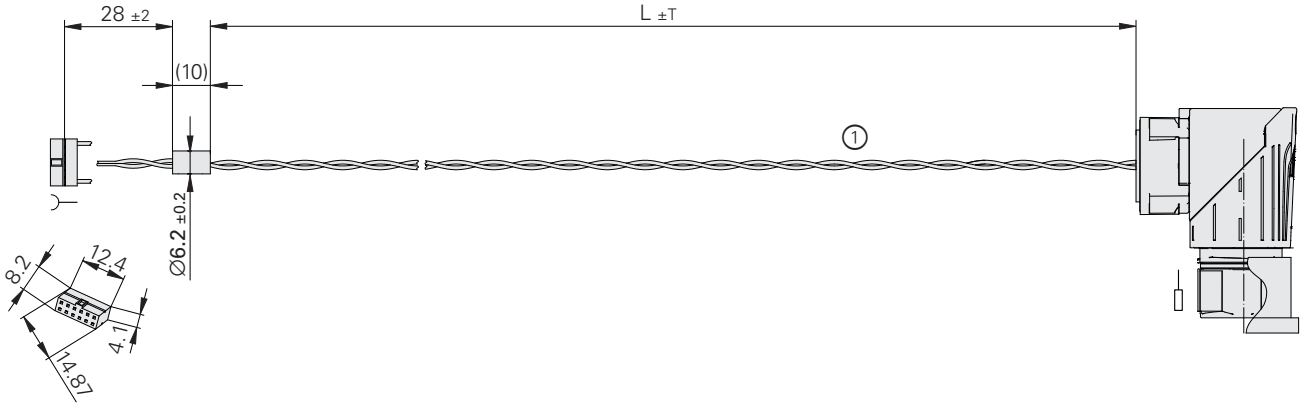
ID 1275042-xx

11/2020

Output cable for
ECI 1319, EBI 1335, EQI 1331, ECN 1325, and EQN 1337

- **With M23 flange socket for HMC 2**
- **Cable end for ExI/EXN 1300**

Dimensions

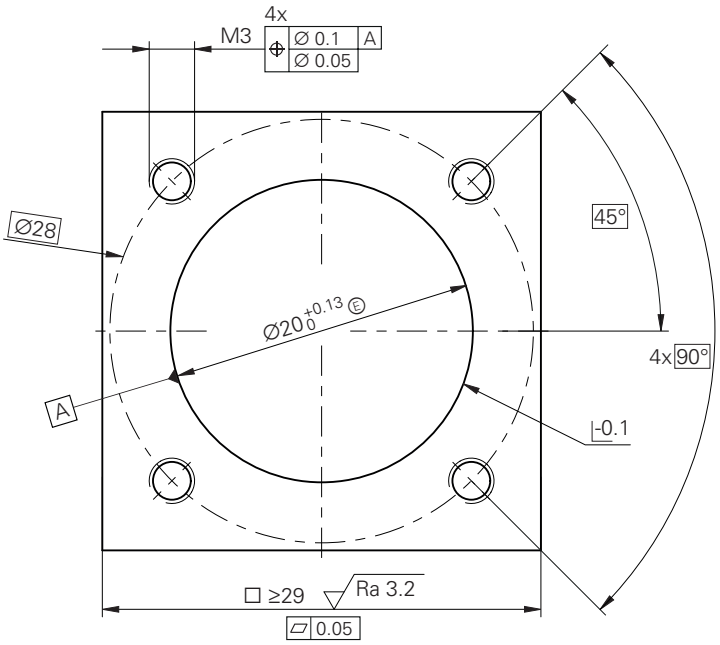


1 = Signal wires
Smallest non-recurring bend radius: 5 mm
Smallest permanent bend radius: 17 mm
Diameter: 1.8 mm
L = For the maximum cable length, see the specifications of the encoder model.

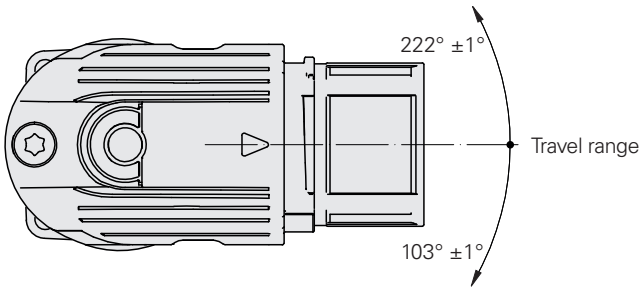
Tolerance table	
L	T
≤ 250 mm	± 5 mm
< 1000 mm	+ 10 mm

mm
Tolerancing ISO 8015
ISO 2768 - m H
≤ 6 mm: ±0.2 mm

Mounting hole

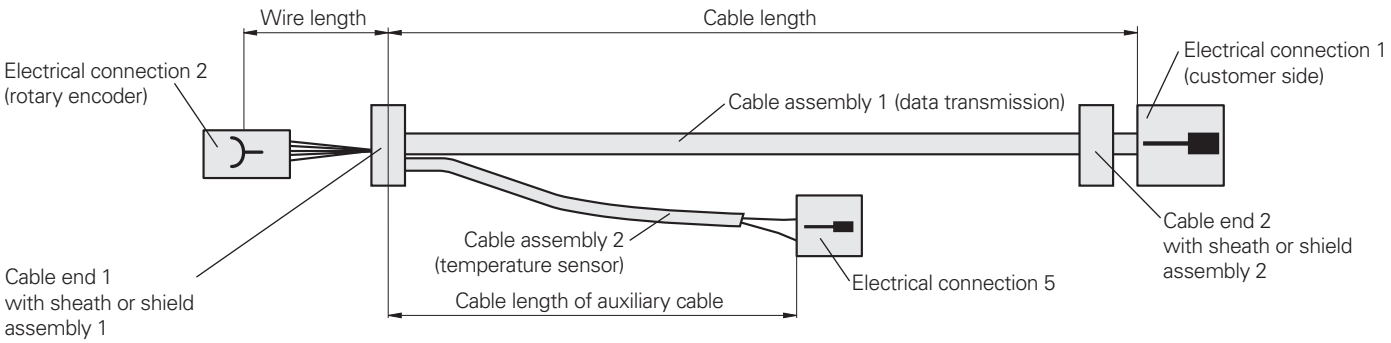


Travel range



Terminology diagram

The following terminology diagram serves as an overview of the cable components with their designations. Dimensions and other cable details must be taken from the *Dimensions* drawing.



Specifications	Output cable (AGK) for ECI 1319, EBI 1335, EQI 1331, ECN 1325, EQN 1337
General design	
Optimized for interface*	EnDat 3 E30-R2 for HMC 2
Operating temperature	*Stationary cable:* –20 °C to 120 °C
CE	Printed on packaging label
NRTL	–
Brand	HEIDENHAIN
Cable assembly 1 (data transmission)	2 x 0.15 mm^2, twisted
Electrical design	Working voltage < 250 V (AC/DC)
Jacket characteristics	ETFE wires are highly resistant to oils, greases, acids bases, and solvents, and do not contain PVC or silicone. *Wire colors:* yellow/violet
Wire jacket / insulation	ETFE (special elastomer) Ø 0.8 mm Test voltage: 3.4 kV peak AC / DC (as per MIL-W-22759/18); test duration: 1 s
Shielding	None
Electrical connection 2 (to rotary encoder, see *Terminology diagram*)	12-pin, 2-row PCB connector; protection rating: IP00
Cable end 1 (see *Terminology diagram*)	Wire protecting sleeve $Ø_O$ = 6.2 mm
Cable length (see L in *Dimensions*)	*Max. cable length:* 0.3 m
Electrical connection 1 (for customer side, see *Terminology diagram*)	8-pin M23 SpeedTEC blue-chromated, rotatable flange socket series 923; bolt circle diameter: 28 mm; flange: 25.7x25.7 mm; protection rating (connected): IP66/67; grounding conductor housing connector: VDE 0627; insulator: PA, PBT, UL 94/V0; seals: FKM **Electrical data** / **Power** / **Signal** Rated current: Max. 30 A* / Max. 7 A* Rated voltage: 630 V (AC/DC) / 250 V (AC/DC) Rated impulse voltage (L-L): 6000 V / 2500 V **Values as per VDE 0110/EN 61984, Section 6.19.2.2** Contamination level: 3 Overvoltage category: III Max. installation elevation: 2000 m
Cable assembly 2 (temperature sensor)	Note: separate AGK, see ID 1302763-xx

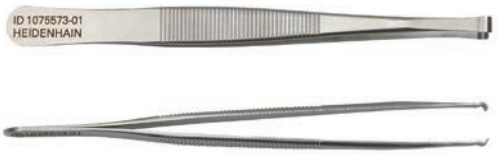
* For more information, see the *Interfaces of HEIDENHAIN Encoders* brochure
Comply as well with the specifications and dimensions for the M23 connecting elements from TE Connectivity Industrial GmbH.

Mounting accessories

Mounting and initial setup must be performed with appropriate ESD protection. Do not engage or disengage the connecting element when it is under power.

Mounting aid
To avoid damage to the cable, use the mounting aid to connect and disconnect the cable assembly. The pulling force must be applied solely to the connector and not to the wires.

ID 1075573-01



Mounting aid for PCB connector

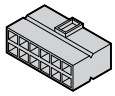
For further mounting information and mounting aids, please refer to the relevant mounting instructions and the *Encoders for Servo Drives* brochure.

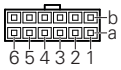
Electrical connection
Pin layout

Output cable inside motor housing for ECI 1319/EBI 1335/EQI 1331/ECN 1325 and EQN 1337 with E30-R2 interface

12-pin PCB connector (female)

12





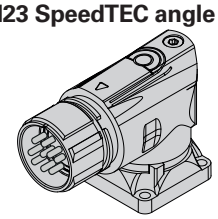
	Encoder	
	Power supply / Serial data transmission	
12	**2b**	**5a**
	P_SD+[1]	**P_SD–**[1]
	Violet	Yellow

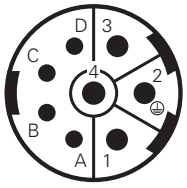
[1] Power supply and data: P_SD+ contains U_P (power supply); P_SD– contains 0 V

Hybrid cable with M23 connector technology

HMC 2 8-pin M23 SpeedTEC angle flange socket (male)

M23





	Encoder		Motor					
	Power supply / Serial data transmission		Brake		Power			
M23	**A**	**B**	**C**	**D**	**1**	**4**	**3**	**2**
⏚	**/**	**/**	**/**	**/**	**/**	**/**	**/**	**Earth**
	P_SD+[1]	**P_SD–**[1]	**Brake+**	**Brake–**	**U**	**V**	**W**	**PE**
	Violet	Yellow						

SpeedTEC is a registered trademark of TE Connectivity Industrial GmbH.
Conformity with the EMC Directive must be ensured in the complete system.
Proper insulation must be ensured in the complete system.
Vacant pins or wires must not be used!

HEIDENHAIN

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This Product Information document supersedes all previous editions, which thereby become invalid. The basis for ordering from HEIDENHAIN is always the Product Information document edition valid when the order is placed.

Further information:

Comply with the requirements described in the following documents to ensure correct and intended operation:

- Brochure: *Cables and Connectors* 1206103-xx
- Brochure: *Encoders for Servo Drives* 208922-xx
- Brochure: *Interfaces of HEIDENHAIN Encoders* 1078628-xx
- Product Information document: *HMC 2* 1305512-xx

For more information on EnDat 3, visit: *www.endat.de*
For brochures and Product Information documents, visit: *www.heidenhain.de*

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