TECHNICAL DATASHEET

Absolute Encoder AC 58 - Profinet



AC58 Profinet

- Interface PROFINET - Encoder Profil PNO 3.162 Version 4.1 and 4.2
- Resolution up to 34 Bit (22 Bit Singleturn + 12 Bit Multiturn)
- Updating of values 125µs / Cycle time 31.25µs
- Diagnostic LEDs
- Device data: position, speed, acceleration, diagnostic data, alarms
- Device configuration: resolution, total measuring range, preset, offset, direction, scaling, residual value function, speed limits, acceleration limits
- Wide temperature range of -40°C ... +85°C
- "Best in Class" shock and vibration specs
- Large number of variants available
- High energy efficiency

TECHNICAL DATA
mechanical

Housing diameter	58 mm
Shaft diameter	6 mm / 8 mm / 9.52 mm (3/8 inch) / 10 mm / 12 mm (solid shafts) 9.52 mm (3/8 inch) / 10 mm / 12 mm / 12.7 mm (1/2 inch) / 14 mm (hub shafts) Other sizes available upon request.
Mounting Flange	Synchro flange, Clamping flange, Tether flange, Square flange
Protection class shaft input (EN 60529)	IP64 or IP67
Protection class housing (EN 60529)	IP65 and IP67
Shaft load axial / radial	40 N / 80 N
Axial endplay of mating shaft (Hub Shaft only)	±1.5 mm
Radial runout of mating shaft (Hub Shaft only)	±0.2 mm
Max. speed	max. 10,000 U/min (continuous duty) max. 12,000 U/min (short term) (higher values available upon request)
Starting torque typ. [1]	≤ 0.05 Nm (lower values available upon request)
Moment of inertia	ca. 3.8 x 10^{-6} kgm^2
Vibration resistance (DIN EN 60068-2-6)	300 m/s² (10 - 2000 Hz)
Shock resistance (DIN EN 60068-2-27)	4000 m/s² (6 ms)
Operating temperature	-40 °C ... +85 °C
Storage temperature	-40 °C ... +85 °C
Material shaft	Stainless Steel
Material housing	Aluminium (stainless steel as AC61 Profinet)
Weight	approx. 420 g (ST) / 450 g (MT)
Connection	Bus cover with 3x M12 connectors

[1] at 20 °C

Specifications subject to change without notice.

TECHNICAL DATASHEET

Absolute Encoder AC 58 - Profinet

TECHNICAL DATA electrical

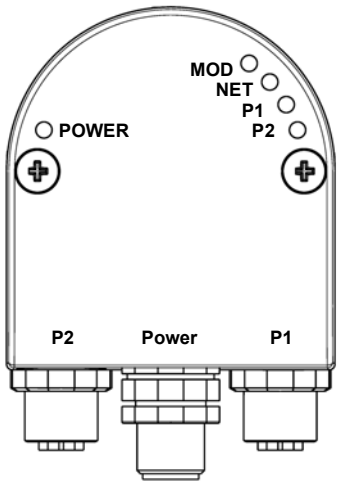
General design	As per DIN EN 61010-1, protection class III, contamination level 2, overvoltage class II
Supply voltage	DC 7 - 30 V
Current w/o load (typ.)	24V: 55 mA (ST) max; 65 mA (MT)
Power consumption	< 2 W
Resolution Singleturn	10 - 22 Bit
Resolution Multiturn	12 Bit (total max. resolution 34 bits)
Output code	Binary
Profile/ protocol [1)]	Profinet IO
Linearity	±½ LSB up to 14 Bit
Absolute accuracy (typ.)	±35"
Repeatability (typ.)	±10"
Device data	position, speed, acceleration, diagnostic data, alarms
Device configuration	resolution, total measuring range, preset, offset, direction, scaling, residual value function, speed limits, acceleration limits
Updating of values / Cycle time	125µs / 31.25µs

[1)] Encoder profile 4.1 and 4.2 (according to the specification Encoder Version 4.1 Dec 2008 and Version 4.2 March 2017"

ELECTRICAL CONNECTIONS Bus cover with 3x M12 connectors

Pin	Port 1 (P1)	Supply voltage	Port 2 (P2)
1	TxD+	UB in	TxD+
2	RxD+	N.C.	RxD+
3	TxD-	0 V in	TxD-
4	RxD-	N.C.	RxD-
Shield	Shield [1]	Shield [1]	Shield [1]

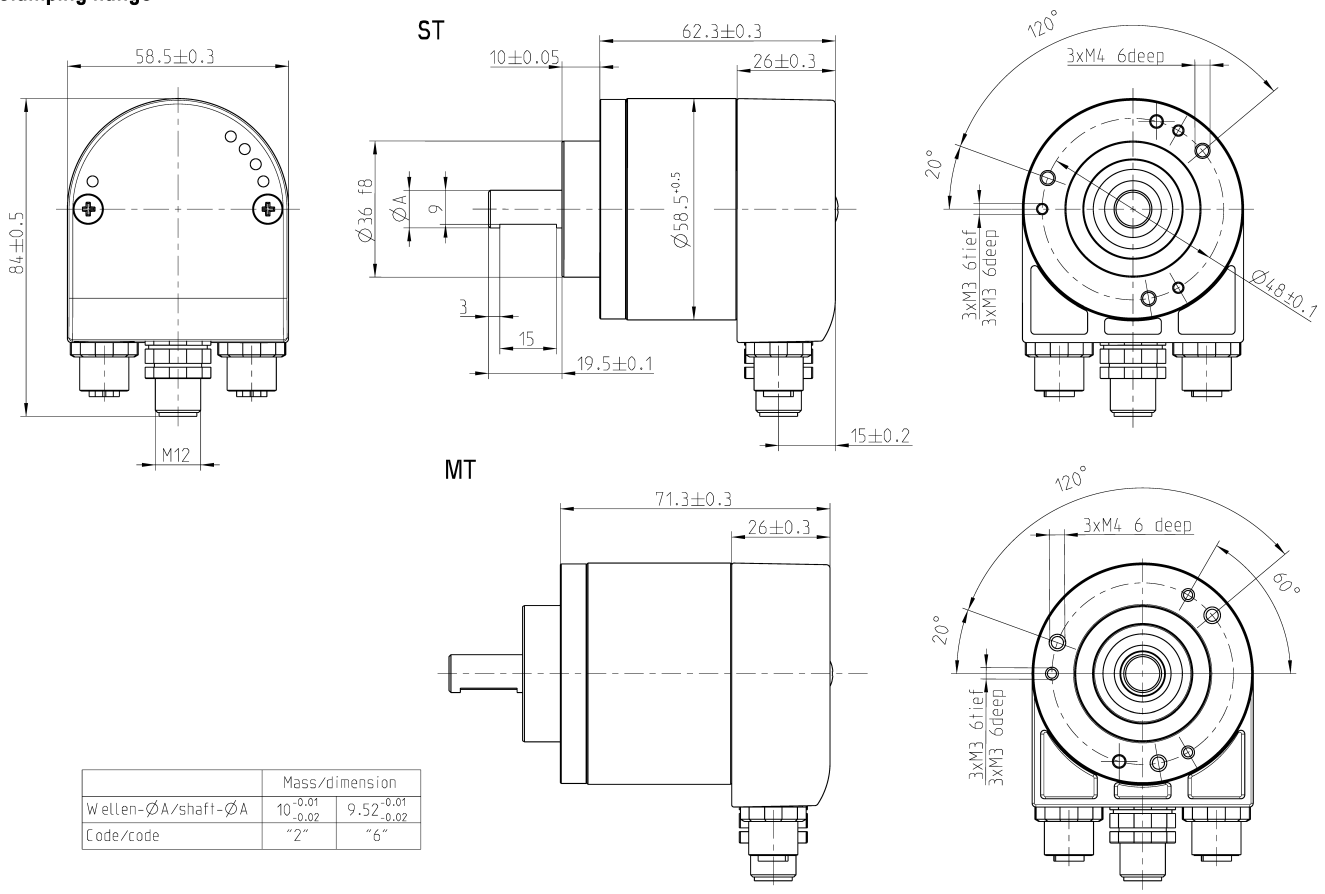
[1] shield connected to encoder housing



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DIMENSIONAL DRAWINGS

Clamping flange

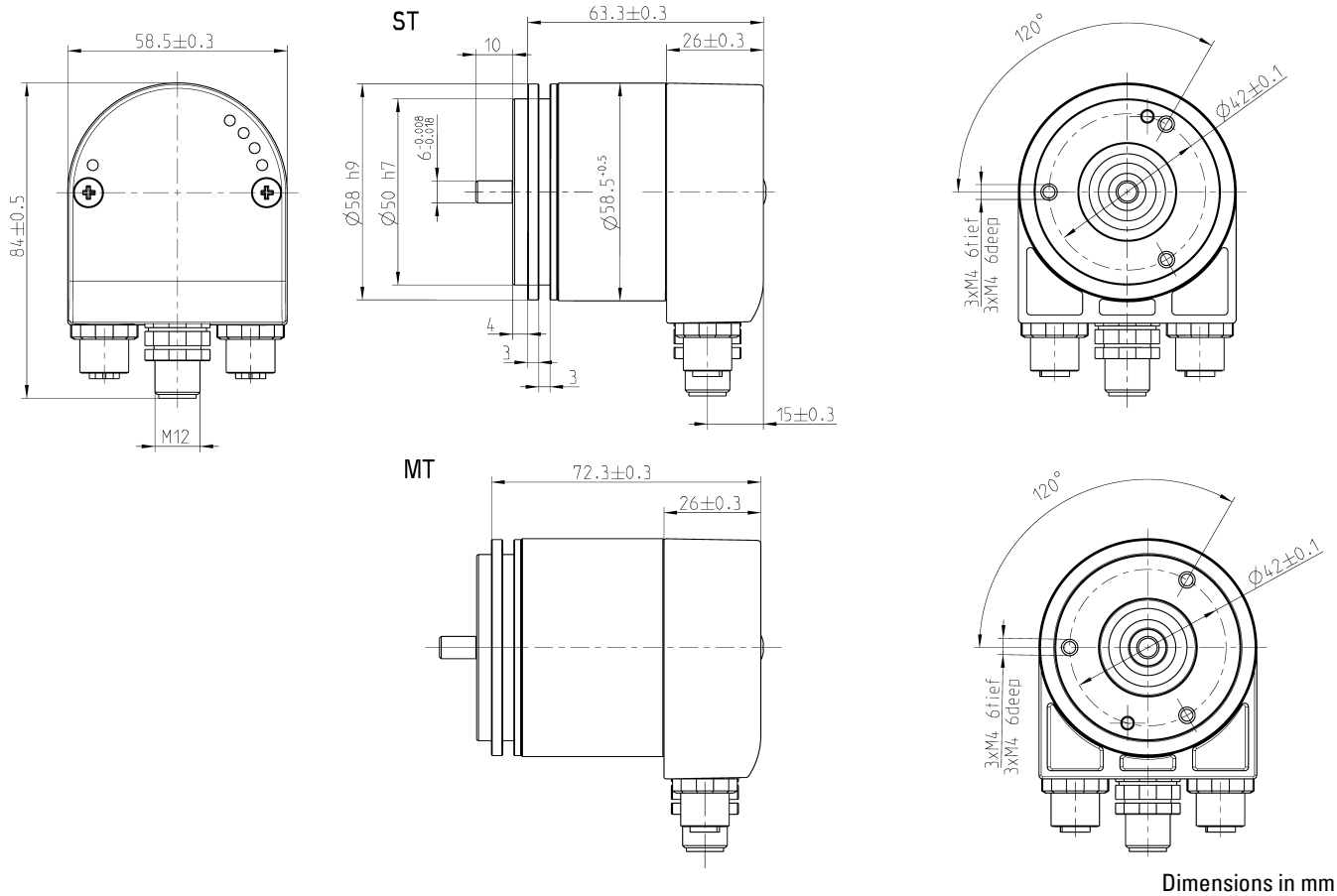


	Mass/dimension	
Wellen-ØA/shaft-ØA	$10^{-0.01}_{-0.02}$	$9.52^{-0.01}_{-0.02}$
Code/code	"2"	"6"

Dimensions in mm

DIMENSIONAL DRAWINGS (continued)

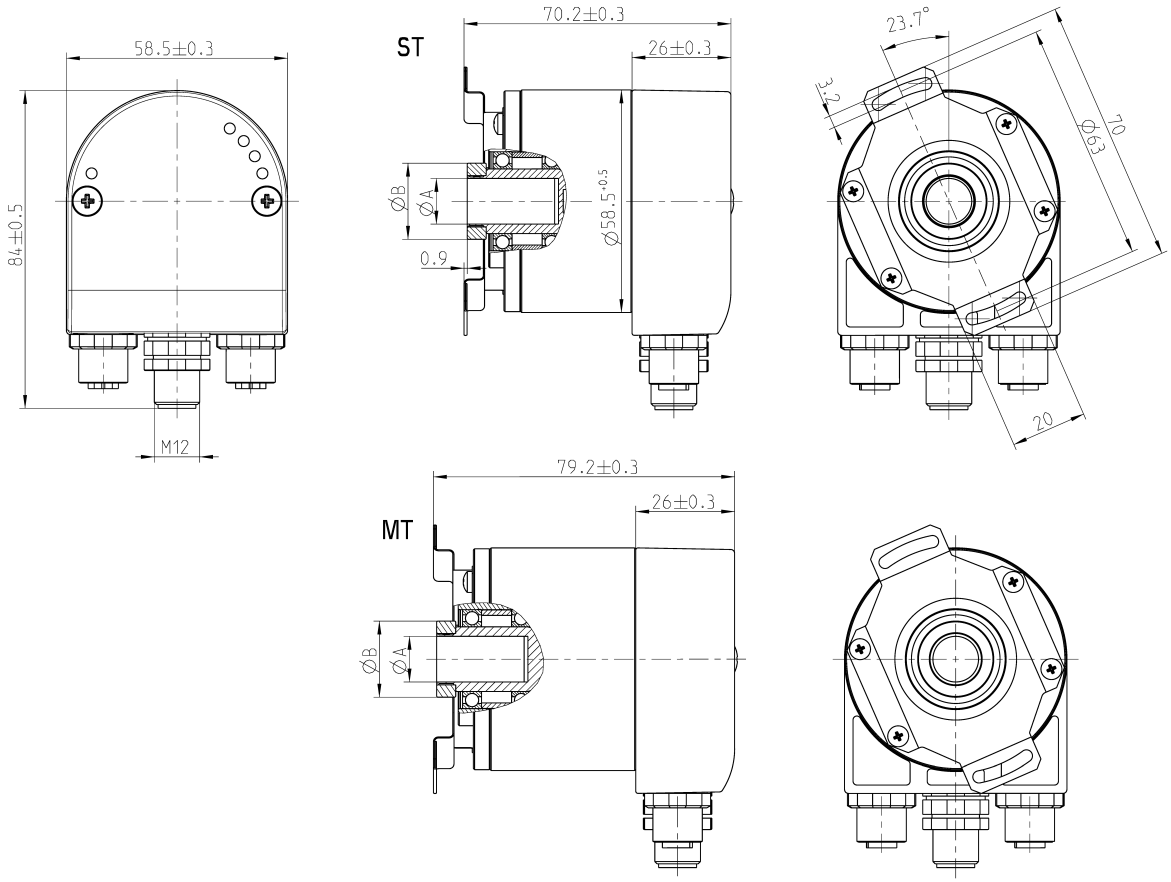
Synchro flange

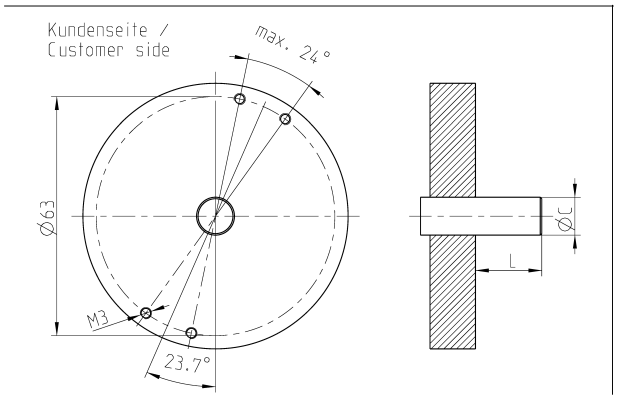


Dimensions in mm

DIMENSIONAL DRAWINGS (continued)

Hub shaft „F“





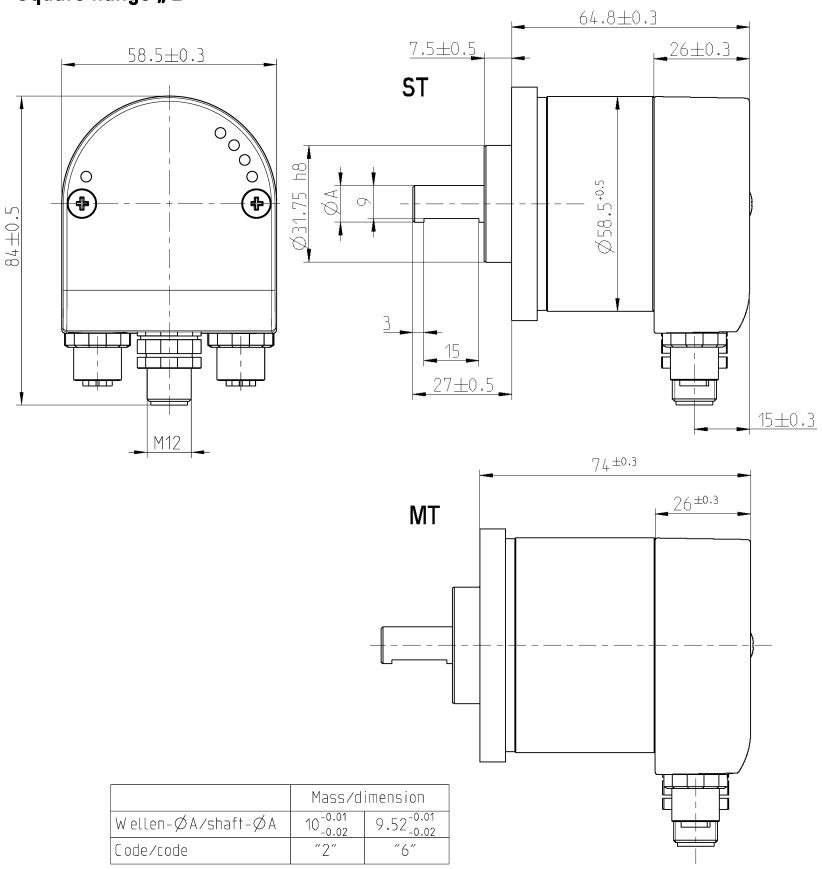
	Mass/dimension					Einheit/unit
Hohlwellen-ØA/ hollow shaft-ØA	10 +0.012	12 +0.012	9.52 +0.012	12.7 +0.012	14 +0.012	mm
Anschlusswellen-ØC/ connecting shaft-ØC	10g7	12g7	9.52g7	12.7g7	14 g7	mm
Klemmring-ØB/ clamping ring-ØB	18	20	18	22	24	mm
L min.	15	18	15	18	18	mm
L max.	20	20	20	20	20	mm
Wellen-Code / shaft code	"2"	"7"	"6"	"E"	"9"	

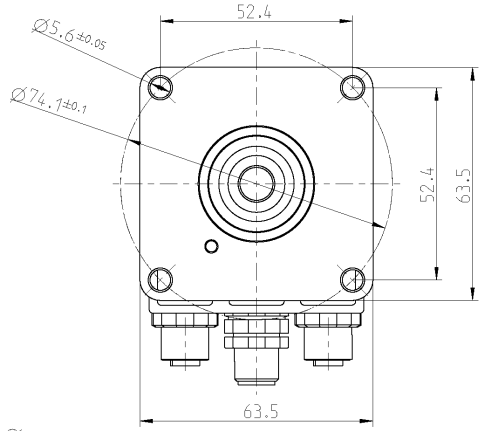
L = Eintauchtiefe der Anschlusswelle in den Geber
L = Length of customers shaft inside of encoder

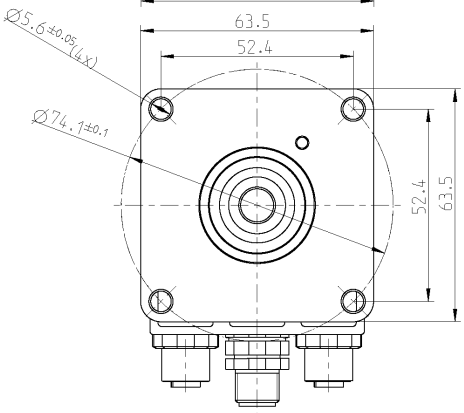
Dimensions in mm

DIMENSIONAL DRAWINGS (continued)

Square flange „Q“







	Mass/dimension	
Wellen-ØA/shaft-ØA	$10^{-0.01}_{-0.02}$	$9.52^{-0.01}_{-0.02}$
Code/code	"2"	"6"

Dimensions in mm

Absolute Encoder AC 58 - Profinet

ORDERING INFORMATION
Profinet

Type	Resolution	Supply voltage	Flange, Protection, Shaft	Interface	Connection
AC58	**0010** 10 Bit ST **0012** 12 Bit ST **0013** 13 Bit ST **0014** 14 Bit ST **0016** 16 Bit ST **0017** 17 Bit ST **0018** 18 Bit ST **0019** 19 Bit ST **0020** 20 Bit ST **0022** 22 Bit ST **1212** 12 Bit MT + 12 Bit ST **1213** 12 Bit MT + 13 Bit ST **1214** 12 Bit MT + 14 Bit ST **1216** 12 Bit MT + 16 Bit ST **1217** 12 Bit MT + 17 Bit ST **1218** 12 Bit MT + 18 Bit ST **1219** 12 Bit MT + 19 Bit ST **1220** 12 Bit MT + 20 Bit ST **1222** 12 Bit MT + 22 Bit ST Others available upon request	**E** DC 7 - 30 V	**S.41 Synchro, IP65[1], 6 mm** **S.71 Synchro, IP67, 6 mm** **K.42 Clamping, IP65[1], 10 mm** **K.46** Clamping, IP65[1], 9.52 mm **K.47** Clamping, IP65[1], 12 mm * **K.4C** Clamping, IP65[1], 8 mm * **K.72 Clamping, IP67, 10 mm** **K.76** Clamping, IP67, 9.52 mm **K.7C** Clamping, IP67, 8 mm * **F.42 Spring tether, IP65[1], hub shaft 10 mm, mounting with front clamping ring** **F.46** Spring tether, IP65[1], hub shaft 9.52 mm, mounting with front clamping ring **F.47 Spring tether, IP65[1], hub shaft 12 mm, mounting with front clamping ring** **F.4E** Spring tether, IP65[1], hub shaft, 12.7 mm, mounting with front clamping ring **F.49** Spring tether, IP65[1], hub shaft 14 mm, mounting with front clamping ring * **F.77** Spring tether, IP67, hub shaft, 12 mm, mounting with front clamping ring **Q.42** Square, IP65[1], 10 mm **Q.46** Square, IP65[1], 9.52 mm **Q.72** Square, IP67, 10 mm **Q.76** Square, IP67, 9.52 mm	**DN** Profinet	**R** Bus cover with 3x M12 connectors

[1] Protection class shaft input IP64 (according to EN 60529)
* Versions on request
Preferred "Flange, Protection, Shaft" versions are in bold type; these versions usually have shorter delivery times

TECHNICAL MANUALS

	Ordering code
Technical manual, English	2 565 737 (or Home page)

SOFTWARE

	Ordering code
GSDML file, download from our Home page	www.hengstler.com

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Absolute Encoder AC 58 - Profinet

Accessories

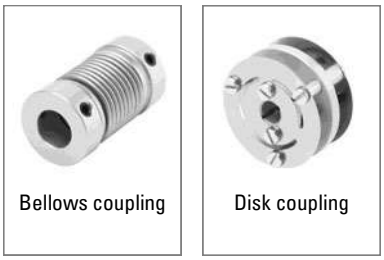
CONNECTING CABLES

Connecting cables with plug, Power	Ordering code
PUR cable, M12 connector, A coded, 4 pole, single ended, 2m	3 561 086
PUR cable, M12 connector, A coded, 4 pole, single ended, 5m	3 561 081
PUR cable, M12 connector, A coded, 4 pole, single ended, 10m	3 561 099
PUR cable, M12 connector, A coded, 4 pole, single ended, 15m	3 561 087
PUR cable, M12 connector, A coded, 4 pole, single ended, 20m	3 561 095
PUR cable, M12 connector, A coded, 4 pole, single ended, 40m	3 561 094
PUR cable, M12 connector, A coded, 4 pole, single ended, 50m	3 561 096

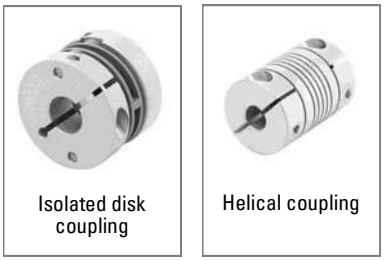
Connecting cables with plug, Encoder - Port (Drive)	Ordering code
PUR cable, RJ45 + M12 connector, D coded, 4 pole, 2m	3 561 082
PUR cable, RJ45 + M12 connector, D coded, 4 pole, 5m	3 561 083
PUR cable, RJ45 + M12 connector, D coded, 4 pole, 10m	3 561 100
PUR cable, RJ45 + M12 connector, D coded, 4 pole, 15m	3 561 088
PUR cable, RJ45 + M12 connector, D coded, 4 pole, 20m	3 561 093
PUR cable, RJ45 + M12 connector, D coded, 4 pole, 40m	3 561 092

Connecting cables with plug, Encoder - Encoder	Ordering code
PUR cable, 2x M12 connector, D coded, 4 pole, 2m	3 561 084
PUR cable, 2x M12 connector, D coded, 4 pole, 5m	3 561 085
PUR cable, 2x M12 connector, D coded, 4 pole, 15m	3 561 089
PUR cable, 2x M12 connector, D coded, 4 pole, 20m	3 561 101
PUR cable, 2x M12 connector, D coded, 4 pole, 40m	3 561 097
PUR cable, 2x M12 connector, D coded, 4 pole, 50m	3 561 098

FLEXIBLE COUPLINGS


Bellows coupling

Disk coupling


Isolated disk coupling

Helical coupling

	Hub diameter d1/d2	Ordering code
Bellows coupling	6 mm / 6 mm	3 520 068
Bellows coupling	8 mm / 10 mm	3 520 077
Bellows coupling	10 mm / 10 mm	3 520 037
Disk coupling	6 mm / 6 mm	0 070 663
Isolated disk coupling	6 mm / 6 mm	3 520 081
Isolated disk coupling	6 mm / 10 mm	3 520 082
Isolated disk coupling	10 mm / 10 mm	3 520 088
Helical coupling 19/28	5 mm / 6 mm	3 520 035
Helical coupling 19/28	6 mm / 6 mm	0 070 653
Helical coupling 25/32	6 mm / 9.53 mm	3 520 052
Helical coupling 25/32	6 mm / 10 mm	3 520 066
Helical coupling 25/32	10 mm / 10 mm	3 520 074
Helical coupling 25/32	10 mm / 12 mm	3 520 065

Specifications subject to change without notice.

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Accessories

MOUNTING

	Ordering code
Clamping eccentric, for M4 (set of three)	1 522 300
Right angle mounting bracket (plastic), for clamping flange RI 58, AC 58 (fastening material included)	1 522 329
Tether for hub shaft versions	1 531 188
Mounting bell (plastic), for synchro flange RI 58, AC 58 (clamping eccentric and fastening material included)	1 522 330
Square flange adapter 58 x 58 mm, for clamping flange RI 58, AC 58 (fastening material included)	1 522 326
Square flange adapter 80 x 80 mm, for clamping flange RI 58, AC 58 (fastening material included)	1 522 327
Synchro flange adapter , for clamping flange RI 58, AC 58 (fastening material included)	1 522 328
Clamping eccentric for synchro flange, d6,5 for M3 (set of three)	0 070 655

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