

Accessories

Problem solutions from a single source.

Our wide range of accessory modules completes the encoder programme.

With these modules, we offer you an optimum means of meeting your application demands.

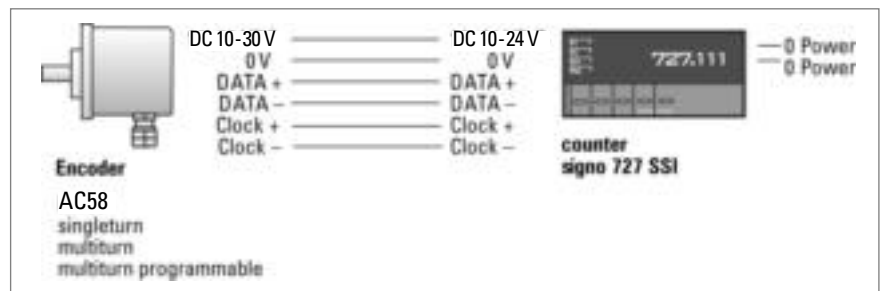
for Absolute Encoder Connection



- Large, 6-digit, 14 mm high LED display
- Predetermined offset
- 2 variable limit values
- Easy direct selection by 2 function keys
- Relay outputs with change-over contacts
- Chain value or absolute value indication
- npn/pnp programming of inputs
- Synchronous Serial Interface

APPLICATION FIELDS

Indication of infeed values, lengths, support- or machine positions, totalizing values etc. The coupling to the machine may be done with an absolute encoder with SSI-Interface from the wide and comprehensive Hengstler program of types AC 58.

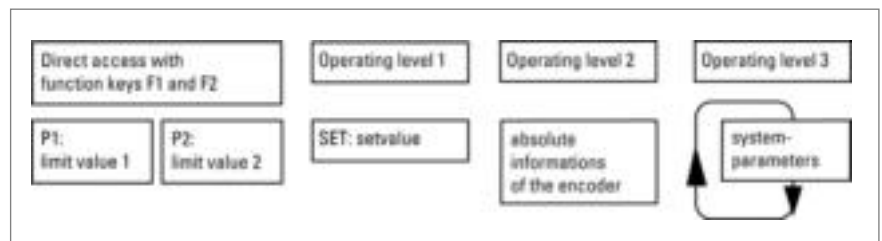


DISPLAY



- Section A:** shows the actual count value when in counting mode, and the changeable parameters when in programming mode.
- Section B:** LED indicators showing the active output signal, and in programming mode indicating the changeable parameter.

PROGRAMMING



Programming of signo 727 is possible by direct access and in the 3 operating levels

- Direct access:** Limit values are set with the function keys F1, F2
- Operating level 1:** Set value
- Operating level 2:** Includes absolute informations of the encoder
- Operating level 3:** Includes system parameters, which are normally programmed during start-up procedure only.

Unauthorized programming of the signo 727 is prevented by a control input, which can lock the operating levels.

for Absolute Encoder Connection

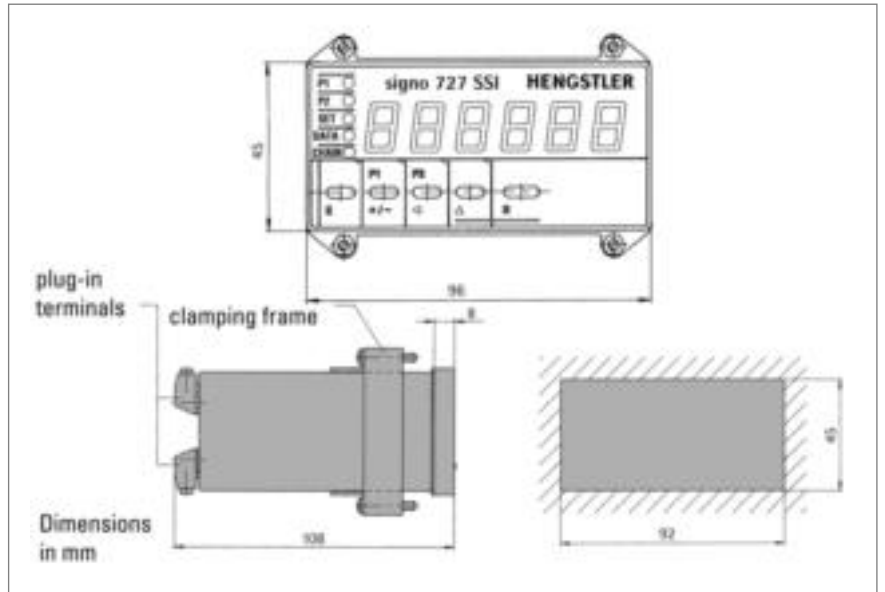
TECHNICAL DATA

Display	LED, indication value/preselection 6 digits, suppression of leading zeros, programmable decimal point, minus sign
Digit Height	14 mm
Power Supply Voltage U_B	DC 12 ... 24 V or AC 115/230 V, depending on version
Max. current w/o load	DC 12 ... 24 V < 250 mA, AC 115/230 V < 60 mA
Sensor Supply	AC operation DC 12...24 V, DC operation $U_B - 2 V$, $I_{max} = 60 mA$
Data Retention	non-volatile memory > 10 years
Operating Temperature	0 ... 50° C
Storage Temperature	-20 ... +70° C
Electrical Connection	plug-in terminals
Mounting	with clamping frame
Protection Class (IEC 144)	front side IP54, terminals IP20
Noise Immunity EMC	severity 3 according to IEC 801, part 2 + part 4
Vibration resistance	10 m/s ² (10 ... 150 Hz) according to IEC 68-part 2-6
Shock resistance	100 m/s ² (18 ms) according to IEC 68-part 2-27
General design	according to VDE 0411, DIN 57411, protection class II
Inputs	SSI Data + SSI Data -
Baud rate	approx. 100 kHz
Control Input	Application Input 1, static Display hold, Reset or Chain Reset (programmable)
Keylock	static
Outputs	SSI measure + SSI measure -
Relay ¹	Out 1 and Out 2
Contact Type	changeover relay
Switching Voltage	max. 250 VAC/30 VDC, mind 5 VAC/DC
Switching Current	max. 1A, min. 10 mA

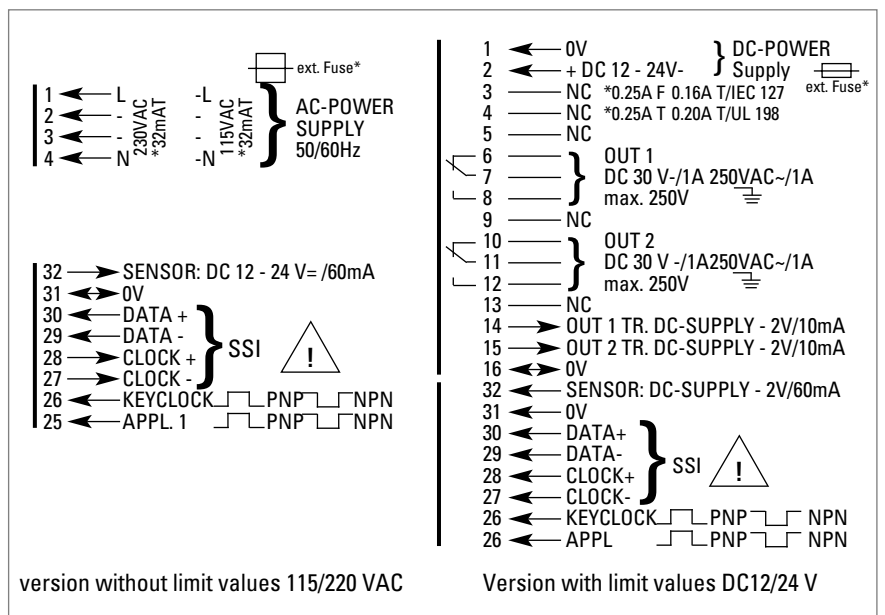
¹ for versions with limit values only

for Absolute Encoder Connection

DIMENSIONAL DRAWINGS



CONNECTION PLAN



ORDERING DATA

Type	Absolute encoder connection	Supply	Ordering code
signo 727 without limit values	SSI	DC 12 - 24 V	0 727 111
signo 727 without limit values	SSI	AC 115/230 V	0 727 112
signo 727 with 2 limit values	SSI	DC 12 - 24 V	0 727 131
signo 727 with 2 limit values	SSI	AC 115/230 V	0 727 132

opt. with interface RS 485, RS 232 on request

Please note:

Absolute encoders with capped Gray Code (e.g. 360 or 720) must not be connected
 Max. encoder resolution: 12 Bit ST (singleturn) and
 24 Bit MT (multiturn 12 + 12 Bit)

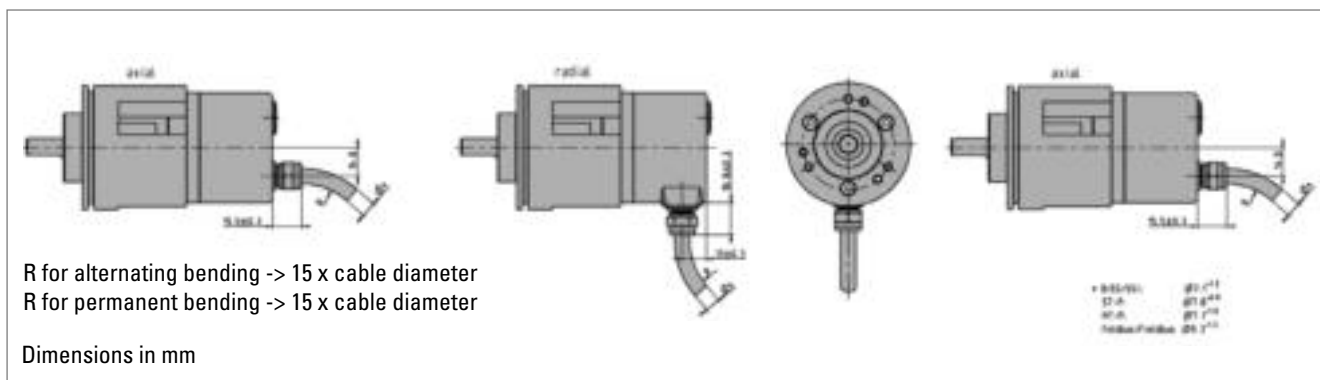
Encoder with Shock Module

AC58-S/M/P WITH OPTIONAL SHOCK MODULE

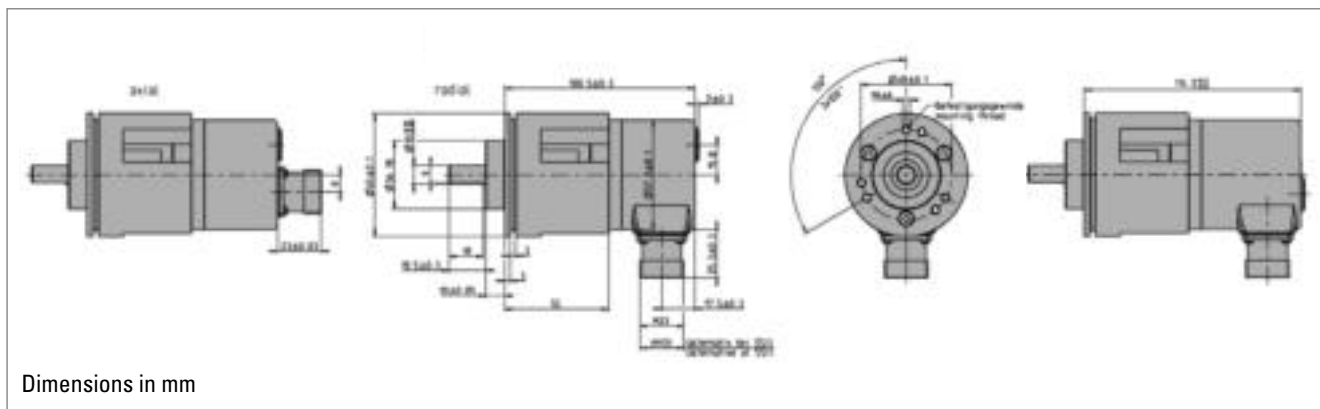
Applications with vibration rates of up to $>100 \text{ m/s}^2$ and shock rates $>1000 \text{ m/s}^2$ require the use of a shock module. By means of integrated attenuating elements, these encoder ratings are reduced.

Fixing	flange by means of clamping flange or clamping eccentric, shaft by means of flexible coupling
Absolute max. shaft load	axial 30 N, radial 100 N
Shaft diameter	10 mm

DIMENSIONAL DRAWING ENCODER WITH SHOCK MODULE, CONNECTING CABLE



DIMENSIONAL DRAWING ENCODER WITH SHOCK MODULE, FLANGE CONNECTOR



ORDERING DATA

For the encoder option with shock module, please enquire by stating your desired encoder type.

(Accessories unit 1 540 239
Flange ordering code: L.42 for RI 58, K.42 for AC 58)

Flexible Couplings

Shaft encoders must be protected against excessive mechanical stresses, which occur whenever there are angular, axial, or radial misalignments between the machine and shaft encoder shafts.

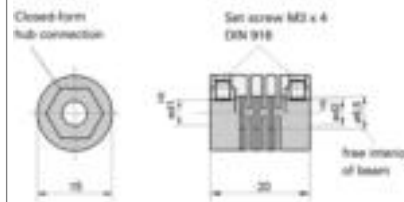
Our flexible couplings can compensate for this within limits.



PLASTIC COUPLING

Max. speed	10 000 min ⁻¹
Torque max.	20 Ncm
Moment of inertia	1.1 gcm ²
Torsional spring constant	12 Nm/rad
Max. angular misalignment	±2.5°
Max. shaft misalignment radial / axial	±0.3 mm / ±0.2 mm
Max tightening torque of set screws	70 Ncm
Material	polyamide 6.6 glass-fibre reinforced
Weight approx.	6 g

Plastic coupling



Dimensions in mm

Hub diameter

5/5 mm	Ordering code 3 520 034
5/6 mm	Ordering code 3 520 033
6/6 mm	Ordering code 1 761 026

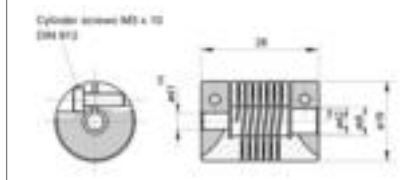
Suitable for encoder type RI 39
RI 32, RI 41, RI 42 for simple applications



HELICAL COUPLING

Max. speed	6 000 min ⁻¹
Torque max.	80 Ncm
Moment of inertia	8.7 gcm ²
Torsional spring constant	14 Ncm/degree
Max. angular misalignment	±4°
Max. shaft misalignment radial/axial	±0.25 mm / ±0.4 mm
Max tightening torque of set screws	80 Ncm
Material	AlCuMgPb, chromed
Weight	16 g

Helical coupling 19/28

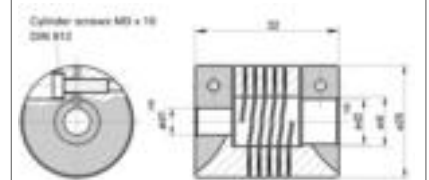


Dimensions in mm

Hub diameter	
5/5 mm	Ordering code 3 520 036
5/6 mm	Ordering code 3 520 035
6/6 mm	Ordering code 0 070 653
6/6.35 mm	Ordering code 3 520 051
6.35/6.35 mm	Ordering code 3 520 057

Suitable for encoder type RI 30, RI 32,
RI 36, RI 41, RI 42, RI 58, AC 58

Helical coupling 25/32



Dimensions in mm

Hub diameter	
6/9.53 mm	Ordering code 3 520 052
6/10 mm	Ordering code 3 520 066
6.35/9.52 mm	Ordering code 3 520 062
10/12 mm	Ordering code 3 520 065
10/10 mm	Ordering code 3 520 074

Suitable for encoder type RI 58, AC 58

Flexible Couplings



ISOLATED DISK COUPLING

Max. speed		12 000 min ⁻¹
Torque max.		60 Ncm
Max. shaft misalignment	radial	±0.3 mm
	axial	±0.4 mm
	angular	±2.5°
Torsional spring constant		30 Nm/rad
Material	Flanges	aluminium, anodized
	Spring disc	plastic, glass-fibre reinforced

Hub diameter

5/6 mm	Ordering code 3 520 080	Suitable for encoder type RI 30, RI 32, RI 36, RI 41, RI 42, RI 58, AC 58
6/6 mm	Ordering code 3 520 081	
6/10 mm	Ordering code 3 520 082	
6/6.35 mm	Ordering code 3 520 083	
6/9.53 mm	Ordering code 3 520 084	
6.35/6.35 mm	Ordering code 3 520 085	
7/7 mm	Ordering code 3 520 086	
10/6.35 mm	Ordering code 3 520 087	
10/10 mm	Ordering code 3 520 088	

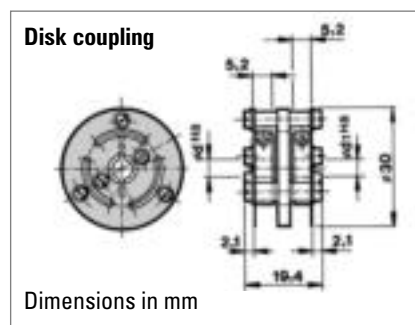
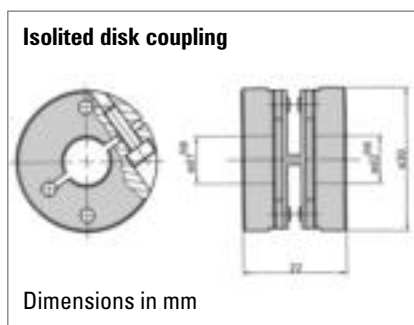


DISK COUPLING

Max. speed		12 000 min ⁻¹
Torque max.		80 Ncm
Moment of inertia		19 gcm ²
Torsional spring constant		150 Nm/rad
Max. angular misalignment		±3.0°
Max. shaft misalignment	radial	±0.4 mm
	axial	±0.4 mm
Max tightening torque of set screws		80 Ncm
Hub diameter d and d ₁		6 mm H 8
Material	coupling body, flange	AlCuMgPb, anodized
	preloaded disc	stainless steel
Weight approx.		14.5 g

Ordering code **0 070 663** suitable for encoder type RI 36, RI 58, AC 58

DIMENSIONAL DRAWINGS



Flexible Couplings



BELLOWS COUPLING

Max. speed		8000 min ⁻¹
Torque max.		80 Ncm
Moment of inertia		9 gcm ²
Torsional spring constant		140 Nm/rad
Max. angular misalignment		±4.0°
Max. shaft misalignment	radial	±0.3 mm
	axial	±0.5 mm
Max tightening torque of set screws		150 Ncm
Material	flange	aluminium
	bellows	stainless steel
Weight		16 g

Hub diameter

12/12 mm

Ordering code **0 070 666**

Suitable for type RI 58, AC 58

10/10 mm

Ordering code **3 520 037**

9.53/9.53 mm

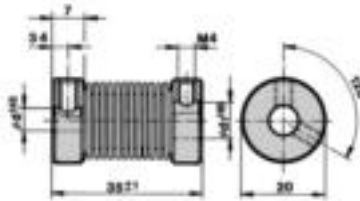
Ordering code **3 520 038**

6/6 mm

Ordering code **3 520 068**

DIMENSIONAL DRAWING

Bellows coupling



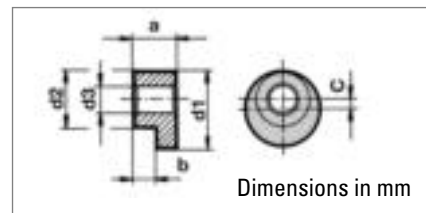
Dimensions in mm

Mounting

CLAMPING ECCENTRIC

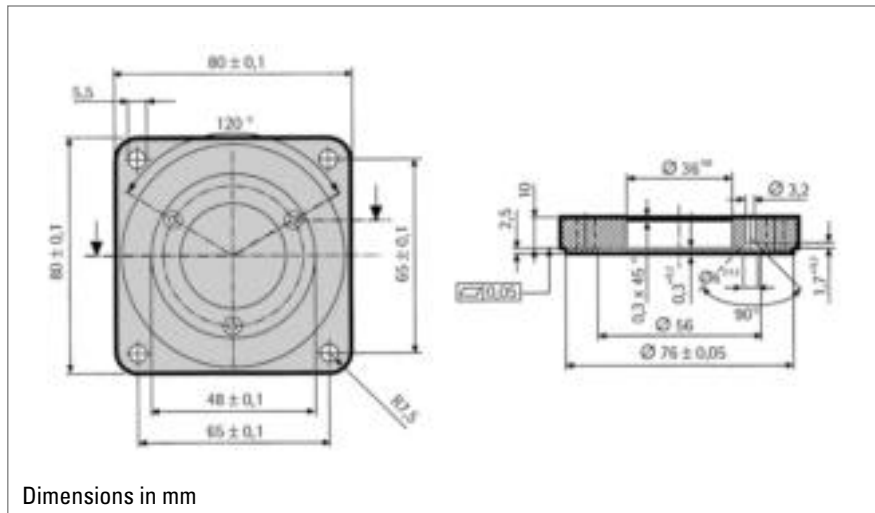
	$\varnothing d_1$	$\varnothing d_2$	$\varnothing d_3$	a	b	c
Ordering code 0 070 655 (RI 58, AC 58) Synchro flange for M3)	8.9 $_{+0.1}$	6.5	3.2	4.9 $_{-0.1}$	2.9 $_{-0.1}$	1.2
Ordering code 0 070 657 (RI 58, AC 58) Synchro flange for M3)	12	9	3.5	4.9 $_{-0.1}$	2.9 $_{-0.1}$	1.5
Ordering code 0 070 654 (RI 30, RI 36) Synchro flange for M2.5)	6.8 $_{+0.2}$	5	2.8	4.4 $_{-0.1}$	2.4 $_{-0.1}$	0.9
Ordering code 1 522 300 (RI 58, AC 58) Synchro flange for M4)	(15)	9.5	4.2	5.4 $_{-0.1}$	2.9 $_{-0.1}$	flattened

Material CuZn39Pb3, surface nickel-plated
Set of three
Suitable for encoders with synchro flange
type RI 30, RI 36, RI 58, AC 58



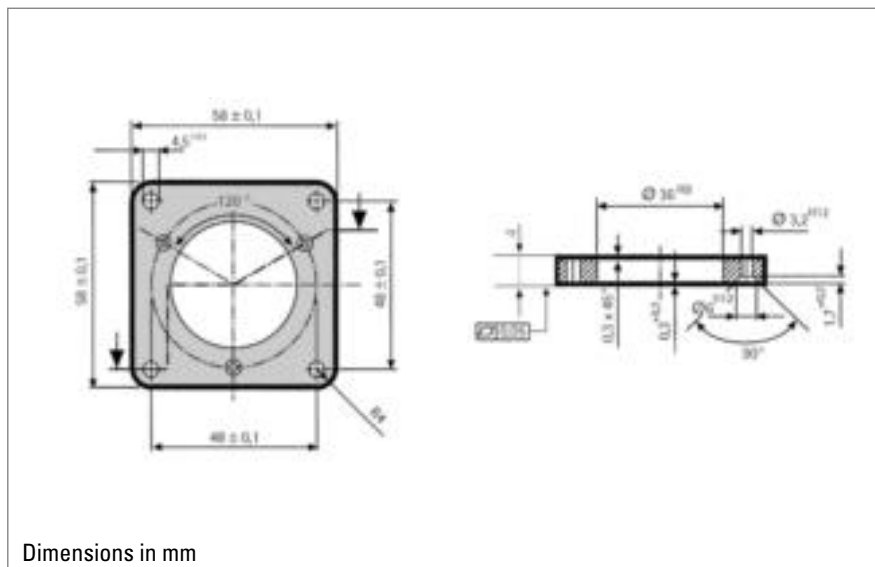
SQUARE FLANGE ADAPTER 80 x 80 mm for clamping flange RI 58, AC 58 (fastening material included)

Ordering code 1 522 327



SQUARE FLANGE ADAPTER 58 x 58 mm for clamping flange RI 58, AC 58 (fastening material included)

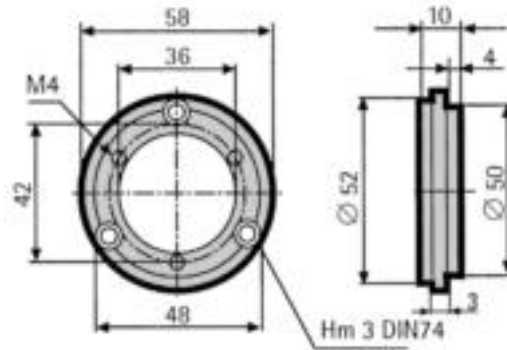
Ordering code 1 522 326



Mounting

SYNCHRO FLANGE ADAPTER
for clamping flange RI 58, AC 58
(fastening material included)

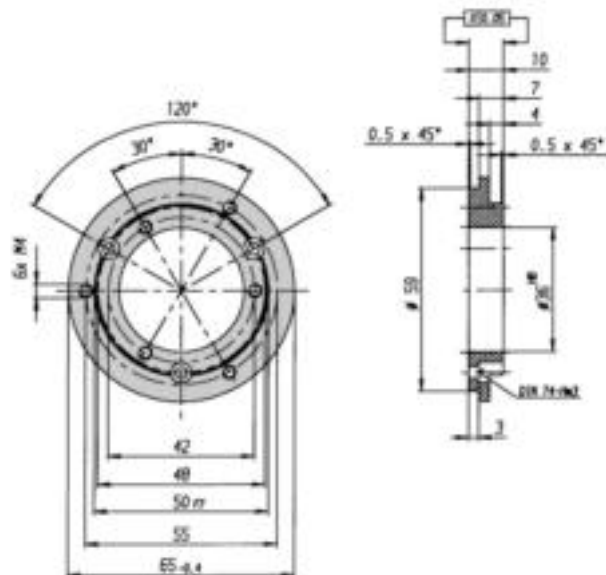
Ordering code 1 522 328



Dimensions in mm

SYNCHRO FLANGE ADAPTER
for clamping flange RI 58,
same dimensions as TR HE 65
(fastening material included)

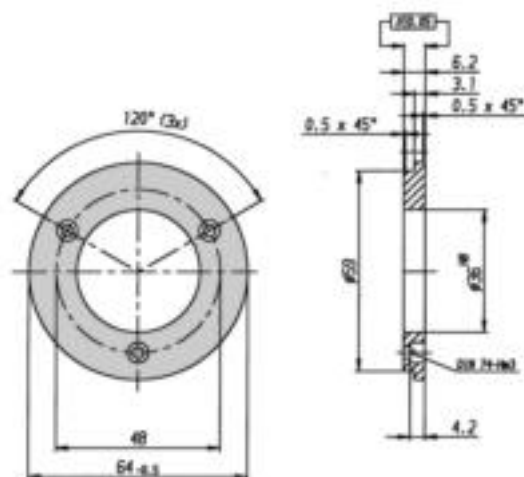
Ordering code 1 522 542



Dimensions in mm

SYNCHRO FLANGE ADAPTER
for clamping flange RI 58,
same dimensions as AG 661
(fastening material included)

Ordering code 1 522 547

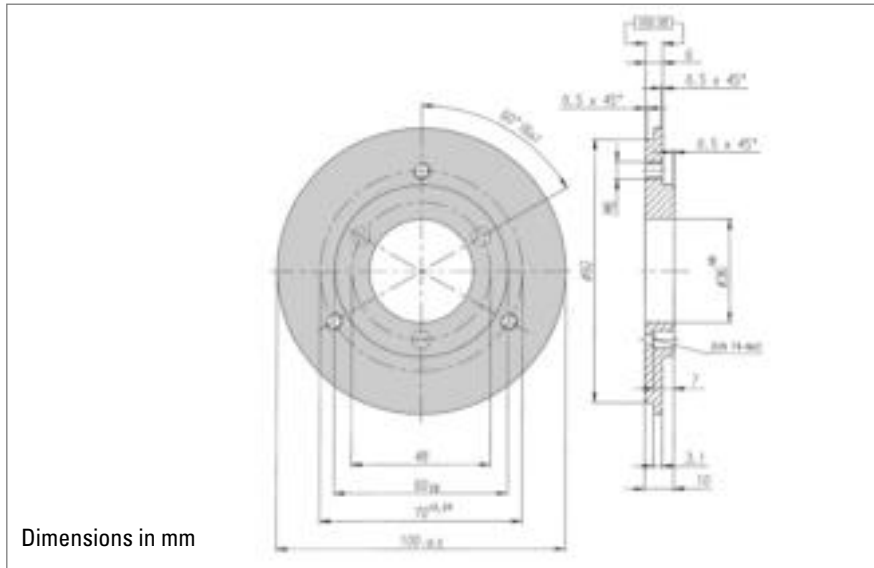


Dimensions in mm

Mounting

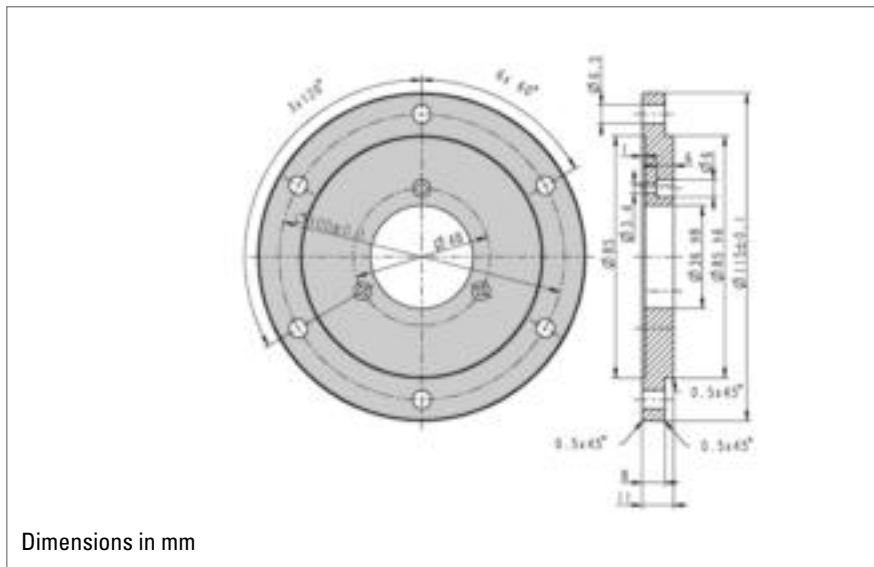
SYNCHRO FLANGE ADAPTER
for clamping flange RI 58,
same dimensions as AG 100/110
(fastening material included)

Ordering code 1 522 548



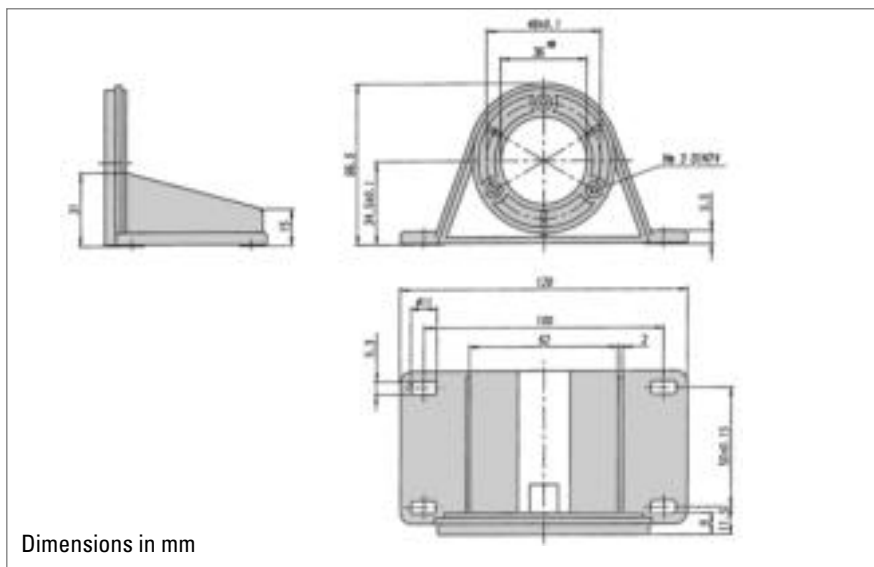
FLANGE ADAPTER
for clamping flange AC 58,
same dimensions as Gelma RAO 5
(fastening material included)

Ordering code 1 540 336



FASTENING BRACKET (PLASTIC)
for clamping flange
RI 58, AC 58
(fastening material included)

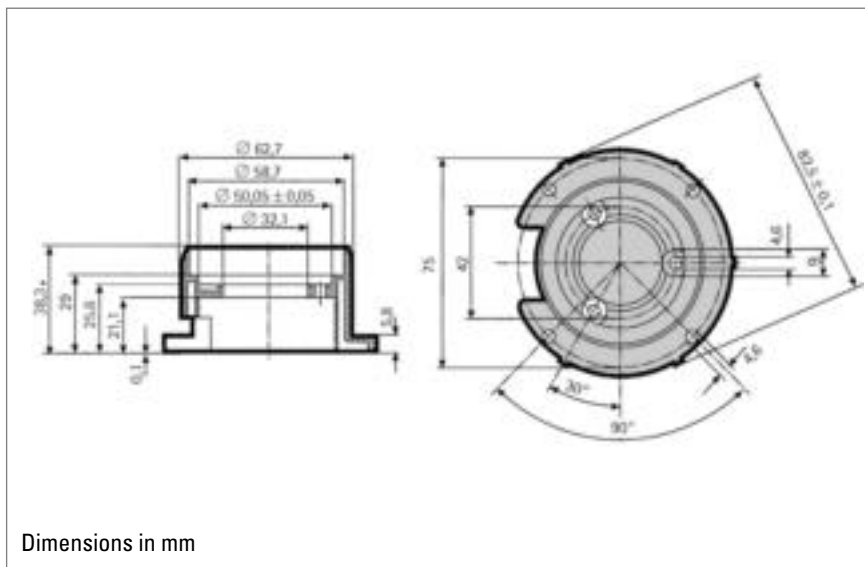
Ordering code 1 522 329



Mounting

MOUNTING BELL (PLASTIC)
for synchro flange RI 58, AC 58
(clamping eccentric and
fastening material included)

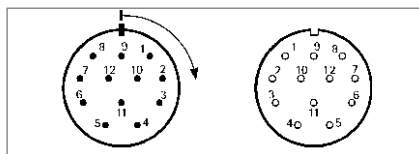
Ordering code 1 522 330



FURTHER MOUNTING ACCESSORIES

	Ordering code
Hubshaft with tether as stator coupling, RI58-D	1 531 162
Hubshaft with tether BR.HA, RI76TD	1 533 119
Hubshaft with tether FE.GU, RI76TD	1 533 116
Hubshaft with tether flexible, RI76TD	1 533 079
Hubshaft with tether rigid, RI76TD	1 533 078
Torque support, RI58-F	2 531 199
Torque support, RI58-F, ACURO hollow shaft	1 531 188
Mounting kit (E9)	MK E9 + hollow shaft Ø
Mounting kit (M14)	MK M14 + hollow shaft Ø
Mounting kit (M9)	MK M9 + hollow shaft Ø

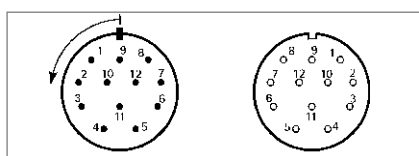
Connectors



NUMBERING OF PINS

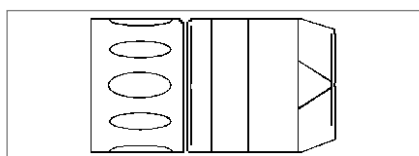
Clockwise system:

A connector with pin contacts, which is numbered clockwise, and the corresponding counter-plug connector with socket contacts (which consequently must be numbered counter-clockwise), is called right-turning.



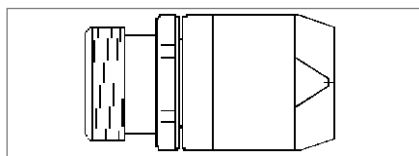
Counter clockwise system:

A connector with pin contacts, which is numbered counter clockwise, and the corresponding counter-plug connector with socket contacts (which consequently must be numbered clockwise), is called left-turning.



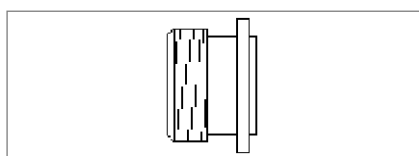
PLUG

A connector with coupling nut is called plug, without regard to its pin or socket contacts.



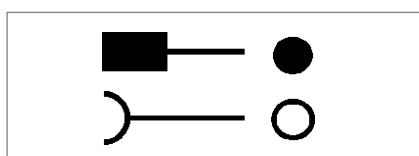
COUPLING

A connector with outer thread is called coupling without regard to its pin or socket contacts.



CONNECTOR

A connector is fastened to the encoder or the machine's housing, has an outer thread (like the coupling) and is available with pin or socket contacts.

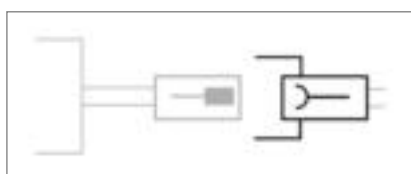
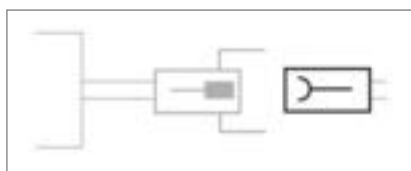
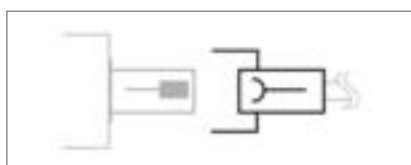


CONTACTS

Sign for pin contact

Sign for socket contact

Connectors



CONNECTOR (PINS) FOR MOUNTING IN ENCODER HOUSING	Ordering code
M23 (Conin), 12 pole, cw, mating connector for connection C/D (RI58, AC58)	3 539 198
M23 (Conin), 12 pole, ccw, identically equal to connection G/H (RI58, AC58)	3 539 230

CONNECTOR (SOCKET) MATCHING WITH ENCODER CONNECTOR ¹	Ordering code
M12, 8 pole, mating connector for connection 7/8 (AC58 BiSS/SSI)	3 539 597
M16 (Binder), 6 pole, bent, IP40, mating connector for connection J/N (RI30, RI36, RI58)	3 539 209
M16 (Binder), 6 pole, gerade, IP67, mating connector for connection J/N (RI30, RI36, RI58)	3 539 472
M23 (Conin), 12 pole, PG9, ccw, mating connector for connection G/H (RI58, AC58)	3 539 229
M23 (Conin), 12 pole, PG9, cw, mating connector for connection C/D/-I (RI58, AC58)	3 539 202
M23 (Conin), 17 pole, PG9, ccw, mating connector for connection U/V Singleturn (AC58 Parallel, ST)	3 539 256
M23 (Conin), 17 pole, PG9, cw, mating connector for connection W/Y Singleturn (AC58 Parallel, ST)	3 539 254
MS, 6 pole, mating connector for connection M/Q (RI58)	3 539 261
MS, 7 pole, mating connector for connection L/P (RI58)	3 539 262
MS, 10 pole, mating connector for connection K/O/R/T (RI58)	3 539 258
PT, 8 pole, mating connector for connection 1/2 (RI58)	3 539 333

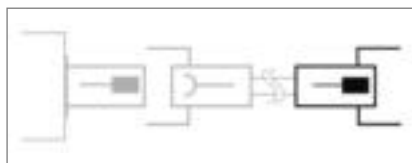
¹ Extension cables with plug refer to "Connecting cables"

COUPLING (SOCKET) MATCHING WITH ENCODER CABLE WITH CONNECTOR	Ordering code
M23 (Conin), 12 pole, cw, mating connector for connection -C (cable plug 3 539 186) (RI30, RI36, RI58, RI76, RI80, AC58 Interbus)	3 539 187
M23 (VDW ²), 12 pole, cw, mating connector for connection -B (cable plug 3 539 252) (RI30, RI36, RI58, RI76, RI80)	3 539 304
SUB-D, 37 pole, mating connector for connection -F (cable plug 1 542 045) (AC 58 Parallel MT)	1 542 024

CONNECTOR (SOCKET) MATCHING WITH ENCODER CABLE WITH CONNECTOR	Ordering code
M23 (Conin), 12 pole, ccw, mating connector for connection G/H/-D/-H (RI30, RI36, RI58, RI76, RI80)	3 539 229
M23 (VDW ²), 12 pole, ccw, mating connector for connection -E (cable plug 3 539 274) (RI30, RI36, RI58, RI76, RI80)	3 539 305

² VDW corresponding to Conin plastic-coated

Connectors

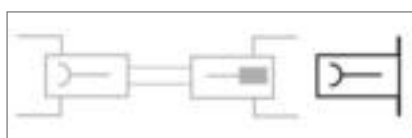


CONNECTOR (PINS) ON CONNECTING CABLE SUITABLE FOR DOWNSTREAM LOGIC CIRCUIT	Ordering code
M23 (Conin), 12 pole, PG9, ccw (RI30, RI36, RI58, RI76, RI80)	3 539 316
M23 (Conin), 12 pole, PG9, cw (RI30, RI36, RI58, RI76, RI80)	3 539 186
M23 (Conin), 17 pole, PG9, ccw (AC58 Parallel MT)	3 539 309
M23 (Conin), 17 pole, PG9, cw (AC58 Parallel MT)	3 539 317
M23 (VDW ¹), 12 pole, PG9, cw (RI30, RI36, RI58, RI76, RI80)	3 539 252

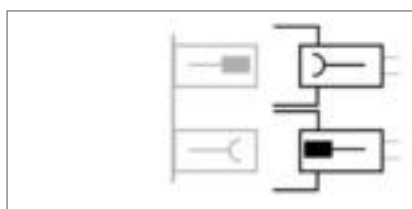


COUPLING (PINS) ON CONNECTING CABLE SUITABLE FOR DOWNSTREAM LOGIC CIRCUIT	Ordering code
M23 (Conin), 12 pole, PG9, ccw (RI30, RI36, RI58, RI76, RI80)	3 539 273
M23 (Conin), 12 pole, PG9, cw (RI30, RI36, RI58, RI76, RI80)	3 539 301
M23 (Conin), 17 pole, PG9, ccw (AC58 Parallel MT)	3 539 303
M23 (Conin), 17 pole, PG9, cw (AC58 Parallel MT)	3 539 302
M23 (VDW ¹), 12 pole, PG9, ccw (RI30, RI36, RI58, RI76, RI80)	3 539 274

¹ VDW corresponding to Conin plastic-coated



CONNECTOR (SOCKET) FOR MOUNTING INTO DOWNSTREAM LOGIC CIRCUIT HOUSING	Ordering code
M23 (Conin), 12 pole, ccw (RI30, RI36, RI58, RI76, RI80, AC58 BiSS/SSI, AC58 CANopen, AC58 CANlayer2, AC58 SSI-P)	3 539 319
M23 (Conin), 12 pole, cw (RI30, RI36, RI58, RI76, RI80, AC58 BiSS/SSI, AC58 CANopen, AC58 CANlayer2, AC58 SSI-P)	3 539 318



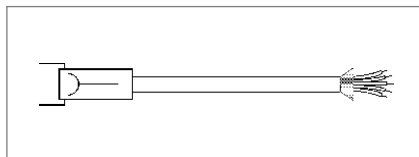
CONNECTOR FOR CONNECTING BUS COVER WITH 2X M23	Ordering code
M23 (Conin), 12 pole, PG9, cw, pins (AC 58 Profibus)	3 539 186
M23 (Conin), 12 pole, PG9, cw, socket (AC 58 Profibus)	3 539 202
M23 (Conin), 9 pole, PG9, cw, pins (AC58 CANopen, AC58 CANlayer2, AC58 Interbus)	3 539 293
M23 (Conin), 9 pole, PG9, cw, socket (AC58 CANopen, AC58 CANlayer2, AC58 Interbus)	3 539 294

Mounting accessories

	Ordering code
Mounting spanner for CONIN connectors	3 539 343

Connecting Cables

CONNECTING CABLES with plug (socket) on one end



M23 (CONIN), 12 POLE, FOR RI 30, RI 36, RI 58, RI 76, RI 80-E (TPE CABLE)

Pin	Colour ¹	Lead mm ²
1	pink	0.14
2	blue	0.14
3	red	0.14
4	black	0.14
5	brown	0.14
6	green	0.14
7	violet	0.14
8	grey	0.14
9	Screen	0.14
10	white/green	0.5
11	white	0.14
12	brown/green	0.5
Housing	Screen	

¹ Cable version 3 280 112

M16 (BINDER), 6 POLE FOR RI 30, RI 36, RI 58 (PVC CABLE)

Pin	Colour ¹	Lead mm ²
1	red	0.5
2	white	0.14
3	yellow	0.14
4	green	0.14
5	yellow/black	0.14
6	black	0.5
Housing	Screen	

¹ Cable version 3 280 113

M23 (CONIN), 12 POLE, FOR AC 58 WITH SSI-INTERFACE (TPE CABLE)

Pin	Colour ¹	Lead mm ²
1	brown	0.5
2	pink	0.14
3	yellow	0.14
4		
5	blue	0.14
6		
7		
8	white	0.5
9		
10	grey	0.14
11	green	0.14
12	black	0.14
Housing	Screen	

¹ Cable version 3 280 220

M12, 8 POLE FOR AC 58 BISS/SSI (PUR CABLE)

Length	Ordering code
3 m	1 565 329
5 m	1 565 330
10	1 565 331

Length	Matching with C/D/-I, cw ¹	Matching with G/H/-D/-H, ccw ²
	Ordering code	Ordering code
3 m	1 522 348	1 522 394
5 m	1 522 349	1 522 395
10 m	1 522 350	1 522 396
15 m	1 522 454	1 522 447
20 m	1 522 456	1 522 461
25 m	1 522 457	1 522 462
30 m	1 522 464	1 522 463
40 m	1 522 643	1 522 779

¹ matching with encoder connector
M23 (Conin), 12 pole, cw (C/D/-I)

² matching with encoder connector
M23 (Conin), 12 pole, ccw (G/H/-D/-H)

Length	Ordering code
3 m	1 522 405
5 m	1 522 404
10 m	1 522 340
15 m	1 522 833
50 m	1 522 836

matching with encoder connector
M16 (Binder), 6 pole (J, N)

Length	Matching with C/D, cw ¹	Matching with G/H, ccw ²
	Ordering code	Ordering code
3 m	1 542 003	1 542 010
5 m	1 542 004	1 542 011
10 m	1 542 005	1 542 012
15 m	1 542 006	1 542 013
20 m	1 542 007	1 542 014
25 m	1 542 008	1 542 015
30 m	1 542 009	1 542 016
40 m	1 542 026	1 542 028
50 m	1 542 027	1 542 029

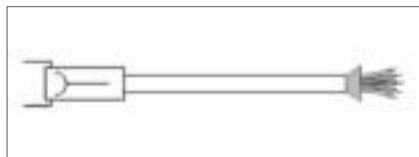
¹ matching with encoder connector
M23 (Conin), 12 pole, cw (C/D)

² matching with encoder connector
M23 (Conin), 12 pole, ccw (G/H)

matching with encoder connector
M12, 8 pole (7/8)

Connecting Cables

CONNECTING CABLES with plug (socket) on one end



MS, 10 POLE FOR RI 58 (TPE CABLE)

Pin	Colour ¹	Lead mm ²
A	brown	0.14
B	grey	0.14
C	red	0.14
D	brown/green	0.5
E	violet	0.14
F	white/green	0.5
G	green	0.14
H	pink	0.14
I	black	0.14
J	Screen	0.14

Length	Ordering code
3 m	1 522 610
5 m	1 522 754

matching with encoder connector
MS, 10 pole (O/K)

¹ Cable version 3280112

M23 (CONIN), 12 POLE FOR AC 58 SSI-P (TPE CABLE)

Pin	Colour ¹	Lead mm ²
1	green	0.14
2	yellow	0.14
3	pink	0.14
4	grey	0.14
5	brown	0.14
6	white	0.14
7	black	0.14
8	blue	0.14
9	red	0.14
10	violet	0.14
11	white	0.5
12	brown	0.5
Housing	Screen	

Length	ccw ¹ Ordering code
3 m	1 543 002
5 m	1 543 003
10 m	1 543 004
15 m	1 543 005
20 m	1 543 006
25 m	1 543 007
30 m	1 543 008
40 m	1 543 015
50 m	1 543 016

¹ matching with encoder connector
M23 (Conin), 12 pole, ccw (G/H)

¹ Cable version 3280220

SUB-D 37 POLE FOR AC 58 PARALLEL Multiturn (TPE CABLE)

Colour ¹	Pin	Colour ¹	Pin
brown	2	white/blue	14
green	21	brown/blue	33
yellow	3	white/red	15
grey	22	brown/red	34
pink	4	white/black	16
violet	23	brown/black	35
grey/pink	5	grey/green	17
red/blue	24	yellow/grey	36

Colour ¹	Pin	Colour ¹	Pin
white/green	6	pink/green	18
brown/green	25	yellow/pink	10
white/yellow	7	green/blue	30
yellow/brown	26	yellow/blue	12
white/grey	8	red	13
grey/brown	27	white	31
white/pink	9	blue	1
pink/brown	28	black	20

¹ Cable version 3280221

Length	Ordering code
1 m	1 542 163
3 m	1 542 020
5 m	1 542 021
10 m	1 542 022
15 m	1 542 172

Length	Ordering code
20 m	1 542 173
25 m	1 542 174
30 m	1 542 175
40 m	1 542 176
50 m	1 542 177

matching with encoder connector SUB-D, 37 pole (cable plug -F)

Connecting Cables

CONNECTING CABLES with plug (socket) on one end



M23 (CONIN), 17 POLE FOR AC 58 PARALLEL Singleturn (PVC CABLE - 12 Bit pin assignment!)

Pin	Colour ¹	Lead mm ²
1	brown/grey	0.14
2	red/blue	0.14
3	violet	0.14
4	white/brown	0.14
5	white/green	0.14
6	white/yellow	0.14
7	white/grey	0.14
8	white/pink	0.14
9	white/blue	0.14
10	white/red	0.14
11	white/black	0.14
12	brown/green	0.14
13	pink	0.14
14	green	0.14
15	black	0.5
16	red	0.5
17	brown	0.14
Housing	Screen	

¹ Cable version 3 280 100

Length	Matching with W/Y, cw ¹	Matching with U/V, ccw ²
	Ordering code	Ordering code
3 m	1 540 100	1 540 097
5 m	1 540 101	1 540 098
10 m	1 540 102	1 540 099
15 m	1 540 142	1 540 138
20 m	1 540 143	1 540 139
25 m	1 540 144	1 540 140
30 m	1 540 145	1 540 141
40 m	1 540 205	1 540 207
50 m	1 540 206	1 540 208

¹ matching with encoder connector M23 (Conin), 17 pole, cw (W/Y)

² matching with encoder connector M23 (Conin), 17 pole, ccw (U/V)

Connection diagram see AC 58, parallel interface with connector.

12 POLE CONNECTING CABLE FOR AD 36

Ordering code		Ordering code	
0.3 m	1 541 006	2 m	1 541 040
0.5 m	1 541 048	3 m	1 541 061
1.5 m	1 541 059		

mating connector for connection 0/2

12 POLE CONNECTING CABLE FOR AD 58

Ordering code	
0.3 m	1 547 078
0.5 m	1 547 049

mating connector for connection 0

RIBBON CABLE WITH CONNECTOR FOR E 9

Ordering code	
0.3 m	CA 0 040 012

RIBBON CABLE WITH CONNECTOR FOR M 9

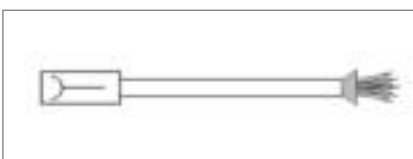
Ordering code	
0.3 m	CA 0 050 012

RIBBON CABLE WITH CONNECTOR FOR M 14

Ordering code	
0.3 m	CA 0 060 012

14 POLE CONNECTING CABLE FOR S 21

Ordering code	
0.5 m	1 548 003

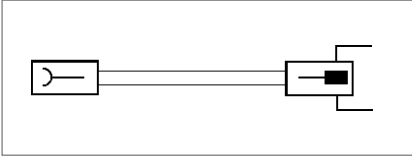


M23 (CONIN), 12 POLE FOR RI 30, RI 36, RI 58, RI 76

Ordering code	
M23 (Conin), 12 pole, TPE cable, cw, mating connector for connection - C, 10 m (RI30, RI36, RI58, RI76)	1 522 735
M23 (Conin), 12 pole, TPE cable, cw, mating connector for connection - C, 20 m (RI30, RI36, RI58, RI76)	1 522 621

Connecting Cables

CONNECTING CABLES with connector on both ends



CABLE NOT MADE UP WITH CONNECTORS

M23 (CONIN), 12 POLE FOR AC58 INTERBUS (TPE CABLE)

Length ¹	Ordering code
3 m	1 542 017
5 m	1 542 018
10 m	1 542 019

¹ Cable version 3 280 220

	Ordering code
TPE cable for RI (12-core + screen)	3 280 112 + length
PVC cable for RI (10-core + screen)	3 280 114 + length
PVC cable for RI (6-core + screen)	3 280 113 + length
PVC cable for AC58 Parallel ST (20-core + screen)	3 280 100 + length
TPE cable for AC58 SSI, AC58 Interbus (12-core + screen)	3 280 220 + length
TPE cable for AC58 Parallel MT (32-core + screen)	3 280 221 + length

Measuring Wheels

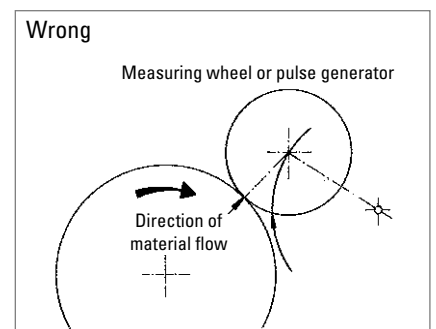
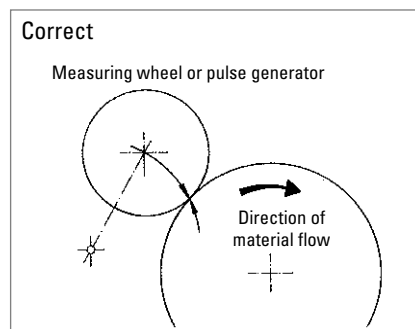
GENERAL ASPECTS



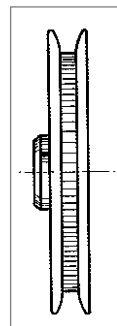
In order to prevent the result being distorted when the shaft encoder is driven by a measuring wheel make sure that the slip is as small as possible. When selecting the tread (surface), take into account the structure, stretchability, thickness, and resistance to being carried along of the material being measured.

The slip is also affected by the width of the measuring wheel, the contact pressure, the tension in the material being measured, and the arc of contact. The arc of contact should be as large as possible. The wheel bodies are made of cast aluminium or plastic (as marked).

The position of the measuring wheel should be chosen so that the direction of movement of the material is away from the shaft encoder's bearing point.

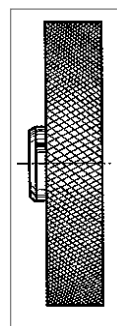


MEASURING WHEEL TREADS



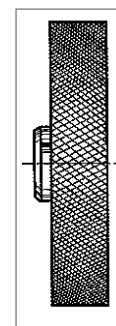
Tread 1
with rim and
fine crosshatched knurl
Material: aluminium

Applications such as
threads and yarns



Tread 2
with glued-on rubber profile
A = soft specially clinging rubber
surface (red)
B = low-wear rubber surface with
good grip (white)

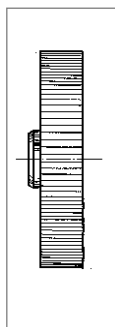
Applications such as
paper and cardboard, measuring
cables, nongreasy metals, fleece,
undressed or surface-treated
wood, soft and hard plastics.



Tread 3
vulcanized rubber
surface with parallel
knurl

Applications such as
rubber, leather, fabrics,
flooring and glass.

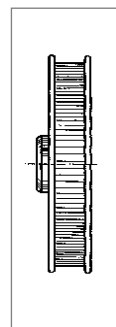
Measuring Wheels



Tread 4

aluminium with parallel knurl

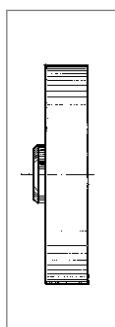
Applications such as rubber, soft plastics, wood with rough surface, and to a limited extent for fabrics.



Tread 5

with rim, aluminium with parallel knurl

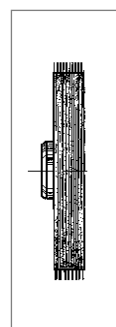
Applications such as threads, yarns, and bands.



Tread 6

plastic surface

Applications such as wire, greasy metals, and steel sections.



Tread 7

carding belt

Applications such as carpets and coarse fabrics.

ORDERING DATA

Aluminium

Dia- meter	Circum- ference	Tread	Width of bearing surface	Bore diameter (mm) fitting to encoder shaft				
				4.0 mm	6.0 mm	7.0 mm	10.0 mm	12.0 mm
6.37 cm	0.2 m	1	4 mm	0 601 014	0 601 015	0 601 017		
		2 A	12 mm	0 601 018				
		2 B	12 mm	0 601 118	0 601 048		0 601 049	
		2 A	24 mm	0 601 020		0 601 092		
		2 B	24 mm			0 601 192		
		4	20.5 mm	0 601 023				
		4	20 mm			0 601 093		
		5	16.5 mm	0 601 026		0 601 094		
		15.92 cm	0.5 m	2 A	25 mm			0 601 050
2 B	25 mm					0 601 150	0 601 151	
2 B	25 mm					0 601 204		
3	25 mm					0 601 059	0 601 156	0 601 159
4	25 mm					0 601 121 ¹	0 601 157	
6	25 mm					0 601 063 ¹	0 601 163	0 601 165
5.73 cm	1/5 yd.	1	4 mm	0 601 034		0 601 037		
		2 A	24 mm	0 601 042				
		5	16.5 mm			0 601 096		
14.33 cm	1/2 yd.	4	25 mm			0 601 061		
9.70 cm	1 foot	2 A	25 mm			0 601 071		
		2 B	25 mm			0 601 171		

Plastic

6.37 cm	0.2 m	1	4 mm			0 601 100		
		4	25 mm			0 601 301		
15.92 cm	0.5 m	6	25 mm			0 601 300		

¹ PTB approved

Other measuring wheels available on request

Displays, Software, Technical Manuals

DISPLAYS

	Ordering code
"Tico" display for connection T, AC58 Profibus, AC58 DeviceNet	0 731 205
"Tico" display for connection T (Caution: Neutralizes ohmic isolation) AC58 CANopen, AC58 CANLayer2	0 731 205
Connection cable bus cover (connection T) to "tico", 1.5 m, AC58 Profibus, AC58 CANopen, AC58 CANLayer2, AC58 DeviceNet	3 539 516
Position indicator Signo-SS, AC58 BiSS/SSI, AC58 SSI-P	0 727 111

SOFTWARE

	Ordering code
EDS-file, as download from our homepage, AC58 CANopen, AC58 DeviceNet, AC61 CANopen, AC61 DeviceNet, AX70/71 CANopen	www.hengstler.com
EDS-file, as download from our homepage, AC58 Profibus, AC61 Profibus, AX70/71 Profibus	www.hengstler.com
Software Win SSI, as download from our homepage, AC 58 SSI-P, AC 61 SSI-P	www.hengstler.com
Software Win SSI, AX70/71 SSI-P	on request
Win SSI PC connecting cable, for M23 (Conin), 12 pole, ccw (suited for supply voltage E and connection G or H), AC58 SSI-P	1 543 010

TECHNICAL MANUALS

	Ordering code
Technical manual, German, AC58 Profibus, AC61 Profibus, AX70/71 Profibus	2 565 090 (or homepage)
Technical manual, English, AC58 Profibus, AC61 Profibus, AX70/71 Profibus	2 565 255 (or homepage)
Technical manual, German, AC58 CANopen, AC61 CANopen, AX70/71 CANopen	2 565 250 (or homepage)
Technical manual, English, AC58 CANopen, AC61 CANopen, AX70/71 CANopen	2 565 329 (or homepage)
Technical manual, German, AC59/61 DeviceNet	2 565 094 (or homepage)
Technical manual, English, AC59/61 DeviceNet	2 565 256 (or homepage)
Technical manual, German, AC58 Interbus, AC59/61 Interbus	2 565 217 (or homepage)
Technical manual, German, AC58 SUCOnet	2 547 080 (or homepage)
Technical manual, English, AC58 SUCOnet	2 547 081 (or homepage)
Technical manual, German, AC58 SSI-P, AC61 SSI-P, AX70/71 SSI-P	2 565 287 (or homepage)
Technical manual, English, AC58 SSI-P, AC61 SSI-P, AX70/71 SSI-P	2 565 289 (or homepage)