

Technical Data ACURO industry

Version SSI/BiSS

HENGSTLER

	Acuro industry	Acuro drive
Electrical		
Supply voltage	5V, -5% / +10% or 10 – 30V	5V, -5% / +10%
Intrinsic current consumption ST/MT	50 mA / 100 mA	50 mA / 100 mA
Interface	Standard SSI or BiSS	Standard SSI or BiSS
Lines / Drivers	Clock and data / RS422	Clock and data / RS422
Output code	Binary or Gray; parameterization via Acuro soft	Binary or Gray; parameterization via Acuro soft
Singleturn resolution	10 – 17 bits depending on version; max 13 bits in SSI-MT Gray Excess: 360, 720 steps	13 bits (SSI) 22 bits (BiSS)
Multiturn resolution	12 Bit	12 Bit
Incremental signals, optional	Sine – cosine 1 Vpp	Sine – cosine 1 Vpp
Number of increments	2,048	2,048
3dB limiting frequency	500 kHz	500 kHz
Absolute accuracy	± 35''	± 35''
Repeatability	± 7''	± 7''
Connection	Cable for flange-connector (Conin, axial or radial)	PCB pinheader 12p / 14p
Parameterization	Resolution, code type, sense of rotation, warning, alarm	Resolution, code type, sense of rotation, warning, alarm
Control input	<u>Direction</u>	–
Reset Key	Latch via parameterization	–
Alarm output	Alarm Bit (SSI option), warning Bit and alarm Bit (BiSS)	Alarm Bit (SSI option), warning Bit and alarm Bit (BiSS)
Status LED	Green = ok.; Red = Alarm	–
Mechanical		
Housing diameter	58 mm	58 mm
Protection, shaft input	IP 64 or IP 67	IP 40
IP Protection class, housing	IP 67	IP 40
Flange types	Synchro-flange, clamping flange, spring tether	Spring tether
Shaft diameter	Solid shaft 6 mm, 10 mm; Hub shaft 10 mm, 12 mm	Tapered shaft 10 mm
Max. speed	Continuous operation 10,000 min ⁻¹ , short-term 12,000 min ⁻¹	Continuous operation 10,000 min ⁻¹ , short-term 12,000 min ⁻¹
Starting Torque	≤ 0,01 Nm	≤ 0,01 Nm
Moment of inertia, rotor	3.8 x 10 ⁻⁶ kgm ²	3.8 x 10 ⁻⁶ kgm ²
Tolerance axial	± 1.5 mm	± 1.5 mm
Tolerance radial	± 0.2 mm	± 0.2 mm
Absolute max. shaft load	∅ 6 mm axial 60 N (13 lbs), radial 110 N (24 lbs) ∅ 10 mm axial 107 N (24 lbs), radial 60 N (35 lbs)	
Bearing life	1x10 ¹⁰ revolutions (typ.) at 35% of full rated shaft load 1x10 ⁹ revolutions (typ.) at 75% of full rated shaft load 1x10 ⁸ revolutions (typ.) at 100% of full rated shaft load for example 30,000 h at 6,000 RPM with a 13 lb radial load (10 mm shaft)	
Shock resistance DIN EN 60068-2-27	1,000 m/s ² (6 ms)	1,000 m/s ² (6 ms)
Vibration resistance DIN EN 60068-2-6	100 m/s ² (10 ... 2,000 Hz)	100 m/s ² (10 ... 2,000 Hz)
Operating temperature	-40...+100 °C	-15...+120 °C
Storage temperature	-40...+85 °C	-15...+85 °C (due to packaging)
Weight, approx. (ST / MT)	260 g / 310 g	260 g / 310 g

Technical Data ACURO industry

Version-specific Data – CANopen / CAN Layer 2

HENGSTLER

Electrical	
Supply voltage	10 – 30 V
Intrinsic current consumption ST/MT	220 mA / 250 mA
Interface	CAN High-Speed according to ISO/DIS 11898, Basic- and Full-CAN, CAN-Specification 2.0 B (11 and 29 Bit Identifier)
Protocol	CANopen according to Profile DSP 406, with additional functions
Programmable	CANopen: Direction, Resolution, Preset, Offset, Limit Values; CAN L2: Direction, Limit Values
Output code	Binary
Transfer mode	Pollmode (only on request), Change of State (automatically when values change), cyclic with settable cycle timer
Baudrate	Adjustable 10 to 1,000 Kbaud
Base identifier	Settable via DIP switches
Resolution Singleturn	10 – 14 Bit, depending on version, 12 Bit for multiturn version
Resolution Multiturn	12 Bit
Special functions	Speed, Acceleration, Round shaft, Limit Values only for CANopen
Connection	Flange-connector socket (Conin 12-pole axial or radial), bus cover with T-manifold
Mechanical	
Operating temperature	-40 °C to +85 °C
Weight (approx.), ST/MT	350 g / 400 g

Ordering Data ACURO industry CANopen / CAN Layer 2

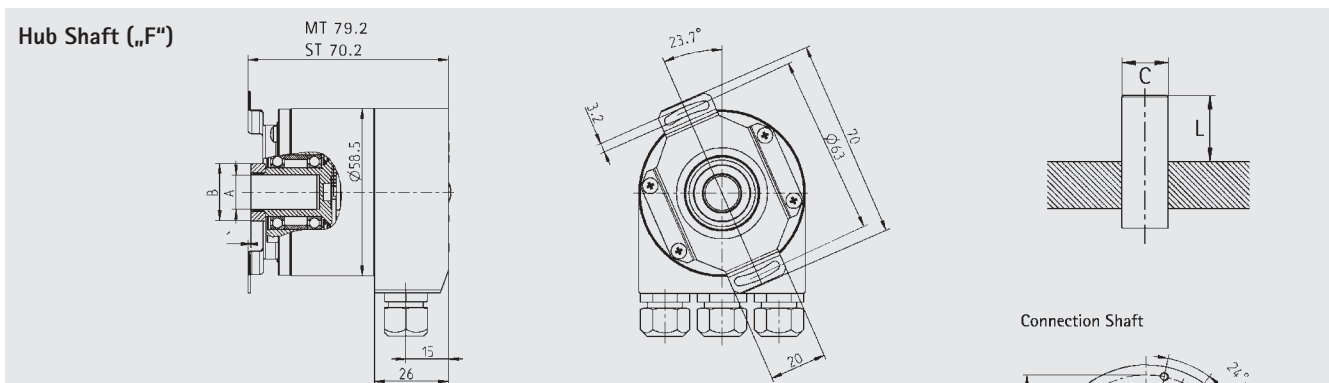
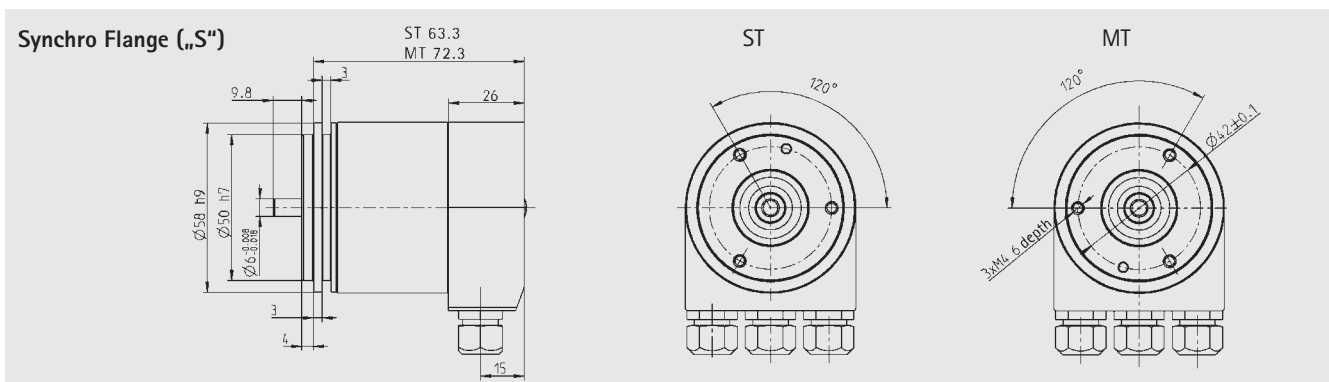
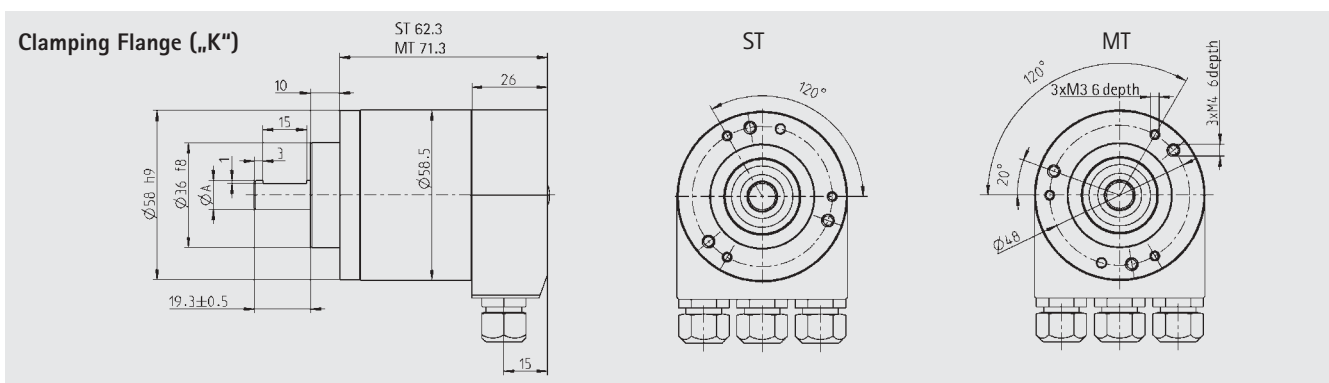
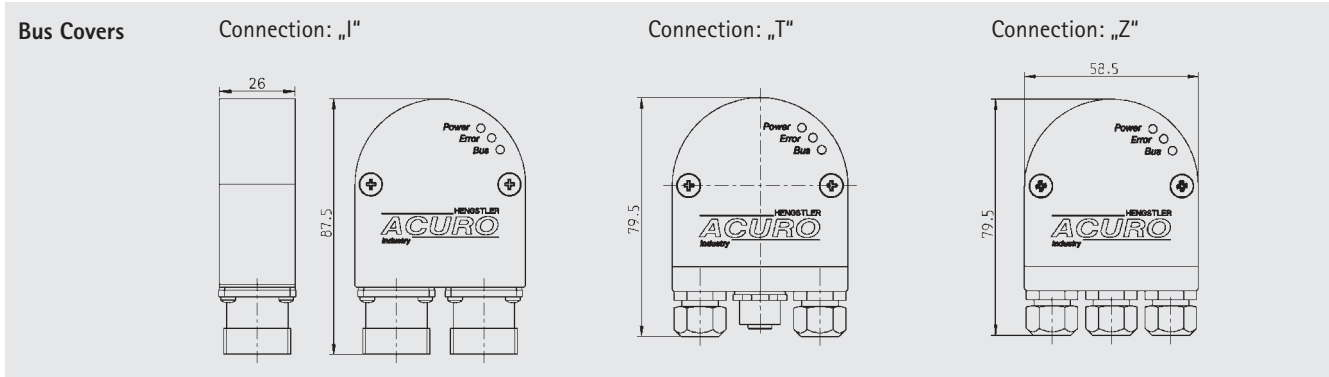
AC 58 / 1212 E K.42 OL Z

Resolution	Supply voltage	Flange	Protection	Shaft-Ø	Interface	Connection
0010 10 Bit ST	E = 10-30V	S. 41 Synchro	IP 64	6 mm	OL = CANopen	C = Conin 12p. ax. cw
0012 12 Bit ST		S. 71 Synchro	IP 67	6 mm	CL = CAN L2	D = Conin 12p. rad. cw
0013 13 Bit ST		K. 42 Clamping	IP 64	10 mm		Z = Bus cover 3x cable gland
0014 14 Bit ST		K. 72 Clamping	IP 67	10 mm		T = Bus cover 4 pol. M12
1212 12 Bit MT + 12 Bit ST		F. 42 Spring tether	IP 64	10 mm Hub shaft		for "tico"-indicator + 2x cable gland
1213 12 Bit MT + 13 Bit ST		F. 47 Spring tether	IP 64	12 mm Hub shaft		
1214 12 Bit MT + 14 Bit ST						

Note:
 Bus Connections radial/axial via cable, optional on request.

- **Diagnosis Kit** 230 VAC for encoder with bus cover, incl. ACURO soft and "tico" indicator, Art. No. 1 565 070
- "tico"-indicator, Art. No. 0 731 205
- Connection cable bus cover (T) to "tico", 1.5m, Art. No. 3 539 575

Bus Covers



Dimensions

	Dimensions		Unit
Hub Shaft - $\varnothing A$	10 ^{+0.012}	12 ^{+0.012}	mm
Connection Shaft - $\varnothing C$	10 ^{+0.07}	12 ^{+0.07}	mm
Clamping Flange - $\varnothing B$	18	20	mm
L min.	15	18	mm
L max.	20	20	mm
Shaft Code	"2"	"7"	

L = Depth of insertion of connection shaft in encoder

ACURO industry

Overview Functions and Versions

HENGSTLER

	SSI	BiSS	Parallel ST	Parallel MT	Profibus	DeviceNet	Interbus K3	CAN	CANopen
Electrical									
Supply 5VDC	(Option)	•							
Supply 10-30VDC	•	•	•	•	•	•	•	•	•
Preset Key /w LED (not IP67)	•	•	LED only	•					
Diagnostics									
- LED-Indicators (Bus cover)					•	•	•	•	•
- Warning Bit		•			•				
- Alarm Bit	(Option)	•			•	•	•	•	•
- Alarm Output	(Option)	(Option)	•	•					
- Temperature Measuring	(Option)	•							
Connection for "tico"					•	•	•	•	•
Programmable (PC, over Parallel Port)	•	•			•	•	•	•	•
Programmable (over Bus)					•	•	•	•	•
Inputs									
- Latch only Binary			•	•					
- Direction	•	•	•	•					
- Tristate			•	•					
Special Functions									
- Speed					•			•	•
- Acceleration					•			•	•
- Hour Meter					•				•
- Round Axis									•
- Limit Values									•
Optional 1 Vpp signal	•	•							
Connections									
Bus cover 3 PG					•	•	•	•	•
Bus cover 2 PG +M12 f. "tico"					•	•	•	•	•
Bus cover 2 x PG						•			
Bus cover 2 x Conin 9p.							•		
Cable Ax/Rad	•	•	•	•					
Cable Ax / Rad 0.1m+37p. Sub-D				•					
Conin 9p. Ax/Rad CW / CCW							•		
Conin 12p. Ax/Rad CW / CCW	•	•						•	•
Conin 17p. Ax/Rad CW / CCW			•						
M12 8p. Ax/Rad	•	•							
Mechanical									
Synchro Flange, Shaft 6 x 10 mm, IP64 or IP67	•	•	•	•	•	•	•	•	•
Clamping Flange, Shaft 10 x 19.5 mm, IP64 or IP67	•	•	•	•	•	•	•	•	•
Hub Shaft 10 mm, Spring tether, IP64	•	•	•	•	•	•	•	•	•
Hub Shaft 12 mm, Spring tether, IP64	•	•	•	•	•	•	•	•	•

Technical Data ACURO industry

Version SSI/BiSS

HENGSTLER

	Acuro industry	Acuro drive
Electrical		
Supply voltage	5V, -5% / +10% or 10 – 30V	5V, -5% / +10%
Intrinsic current consumption ST/MT	50 mA / 100 mA	50 mA / 100 mA
Interface	Standard SSI or BiSS	Standard SSI or BiSS
Lines / Drivers	Clock and data / RS422	Clock and data / RS422
Output code	Binary or Gray; parameterization via Acuro soft	Binary or Gray; parameterization via Acuro soft
Singleturn resolution	10 – 17 bits depending on version; max 13 bits in SSI-MT Gray Excess: 360, 720 steps	13 bits (SSI) 22 bits (BiSS)
Multiturn resolution	12 Bit	12 Bit
Incremental signals, optional	Sine – cosine 1 Vpp	Sine – cosine 1 Vpp
Number of increments	2,048	2,048
3dB limiting frequency	500 kHz	500 kHz
Absolute accuracy	± 35''	± 35''
Repeatability	± 7''	± 7''
Connection	Cable for flange-connector (Conin, axial or radial)	PCB pinheader 12p / 14p
Parameterization	Resolution, code type, sense of rotation, warning, alarm	Resolution, code type, sense of rotation, warning, alarm
Control input	<u>Direction</u>	–
Reset Key	Latch via parameterization	–
Alarm output	Alarm Bit (SSI option), warning Bit and alarm Bit (BiSS)	Alarm Bit (SSI option), warning Bit and alarm Bit (BiSS)
Status LED	Green = ok.; Red = Alarm	–
Mechanical		
Housing diameter	58 mm	58 mm
Protection, shaft input	IP 64 or IP 67	IP 40
IP Protection class, housing	IP 67	IP 40
Flange types	Synchro-flange, clamping flange, spring tether	Spring tether
Shaft diameter	Solid shaft 6 mm, 10 mm; Hub shaft 10 mm, 12 mm	Tapered shaft 10 mm
Max. speed	Continuous operation 10,000 min ⁻¹ , short-term 12,000 min ⁻¹	Continuous operation 10,000 min ⁻¹ , short-term 12,000 min ⁻¹
Starting Torque	≤ 0,01 Nm	≤ 0,01 Nm
Moment of inertia, rotor	3.8 x 10 ⁻⁶ kgm ²	3.8 x 10 ⁻⁶ kgm ²
Tolerance axial	± 1.5 mm	± 1.5 mm
Tolerance radial	± 0.2 mm	± 0.2 mm
Absolute max. shaft load	∅ 6 mm axial 60 N (13 lbs), radial 110 N (24 lbs) ∅ 10 mm axial 107 N (24 lbs), radial 60 N (35 lbs)	
Bearing life	1x10 ¹⁰ revolutions (typ.) at 35% of full rated shaft load 1x10 ⁹ revolutions (typ.) at 75% of full rated shaft load 1x10 ⁸ revolutions (typ.) at 100% of full rated shaft load for example 30,000 h at 6,000 RPM with a 13 lb radial load (10 mm shaft)	
Shock resistance DIN EN 60068-2-27	1,000 m/s ² (6 ms)	1,000 m/s ² (6 ms)
Vibration resistance DIN EN 60068-2-6	100 m/s ² (10 ... 2,000 Hz)	100 m/s ² (10 ... 2,000 Hz)
Operating temperature	-40...+100 °C	-15...+120 °C
Storage temperature	-40...+85 °C	-15...+85 °C (due to packaging)
Weight, approx. (ST / MT)	260 g / 310 g	260 g / 310 g

Technical Data ACURO industry

Version-specific Data – Devicenet

HENGSTLER

Electrical	
Supply voltage	10 – 30V
Intrinsic current consumption ST/MT	220 mA / 250 mA
Interface	CAN Highspeed according ISO/DIS 11898, CAN Specification 2.0 B (11 and 29 Bit identifier)
Protocol	Manufacturer specific profile, based on encoder profile draft DeviceNet
Programmable	According to Class 2: Resolution, Preset, Direction
Output code	Binary
Transfer mode	Pollmode (only on request), Change of State (automatically when values change), Cyclic with adjustable cycle timer
Baudrate	Settable 125, 250, 500 KBAud
Resolution Singleturn	10 – 14 Bit, depending on version, 12 Bit for multiturn version
Resolution Multiturn	12 Bit
Connection	Bus cover with T-manifold
Mechanical	
Operating temperature	-40 °C to +85 °C
Weight (approx.), ST / MT	350 g / 400 g

Ordering Data ACURO industry DeviceNet

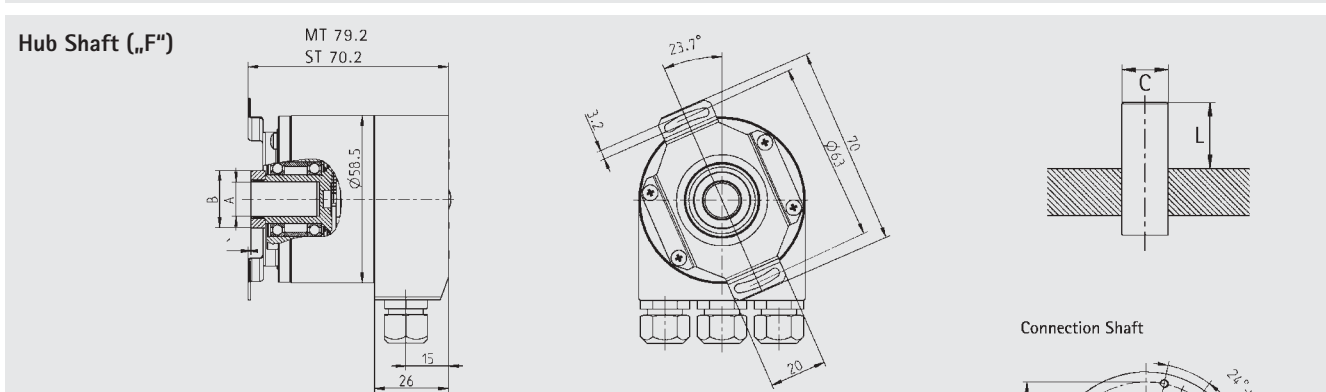
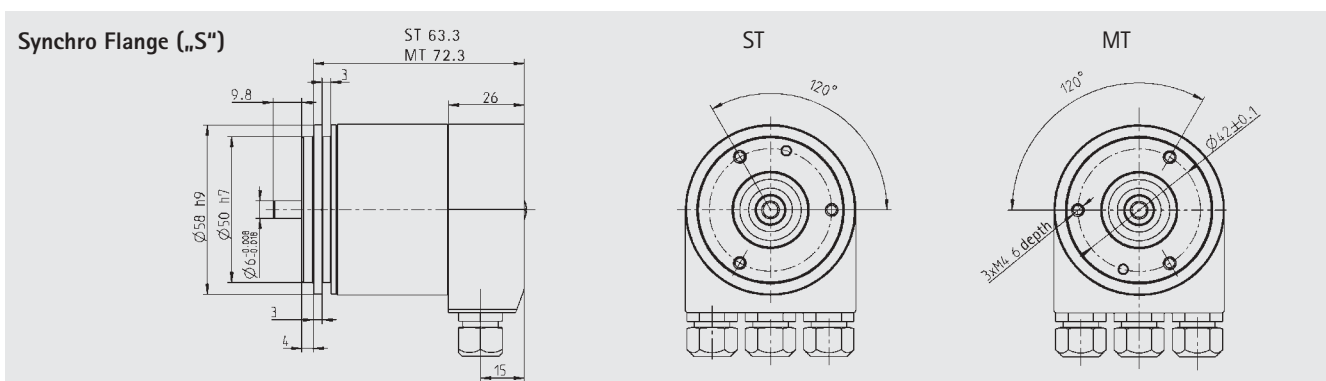
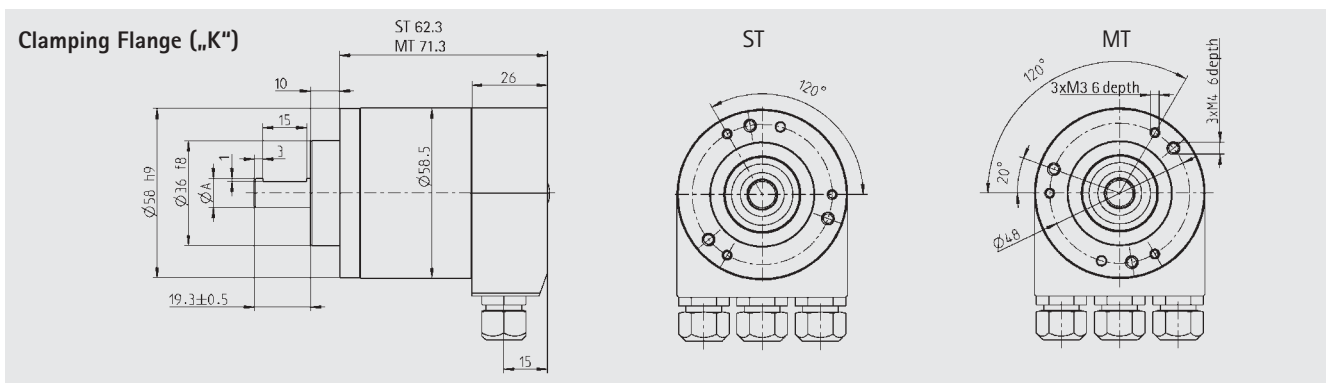
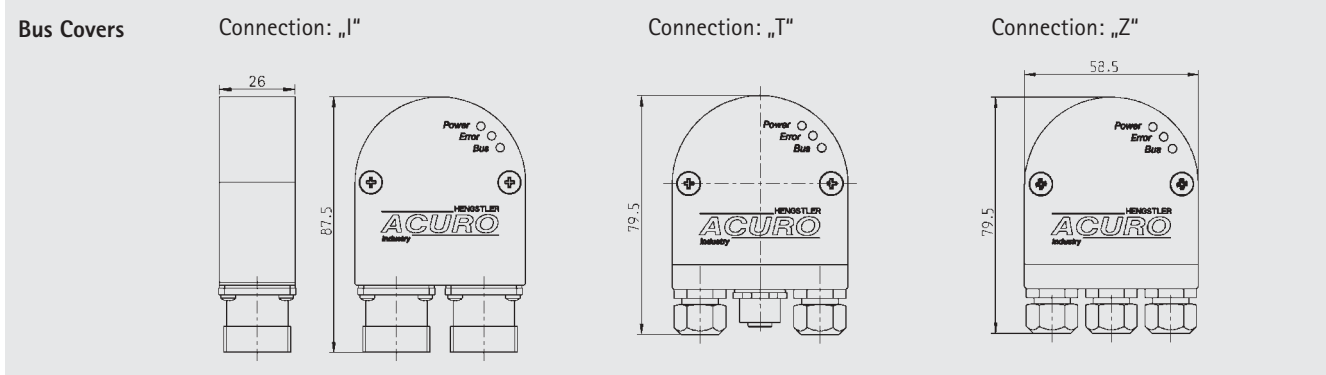
AC 58 / 1212 E K.42 VD Z

Resolution	Supply voltage	Flange	Protection	Shaft-Ø	Interface	Connection
0010 10 Bit ST	E = 10-30V	S. 41 Synchro	IP 64	6 mm	VD = DeviceNet	Z = Bus cover 2x cable gland
0012 12 Bit ST		S. 71 Synchro	IP 67	6 mm		T = Bus cover 4 pol. M12
0013 13 Bit ST		K. 42 Clamping	IP 64	10 mm		for "tico"-indicator + 2x cable gland
0014 14 Bit ST		K. 72 Clamping	IP 67	10 mm		
1212 12 Bit MT + 12 Bit ST		F. 42 Spring tether	IP 64	10 mm Hub shaft		
1213 12 Bit MT + 13 Bit ST		F. 47 Spring tether	IP 64	12 mm Hub shaft		
1214 12 Bit MT + 14 Bit ST						

Note:
Bus Connections radial/axial via connector and cable, optional on request.

- **Diagnosis Kit** 230 VAC for encoder with bus cover, incl. ACURO soft and "tico" indicator, Art. No. 1 565 070
- "tico"-indicator, Art. No. 0 731 205
- Connection cable bus cover (T) to "tico", 1.5m, Art. No. 3 539 575

Bus Covers



Dimensions

	Dimensions		Unit
Hub Shaft - ØA	10 ^{+0.012}	12 ^{+0.012}	mm
Connection Shaft - ØC	10 ^{+0.07}	12 ^{+0.07}	mm
Clamping Flange - ØB	18	20	mm
L min.	15	18	mm
L max.	20	20	mm
Shaft Code	"2"	"7"	

L = Depth of insertion of connection shaft in encoder

ACURO industry

Overview Functions and Versions

HENGSTLER

	SSI	BiSS	Parallel ST	Parallel MT	Profibus	DeviceNet	Interbus K3	CAN	CANopen
Electrical									
Supply 5VDC	(Option)	•							
Supply 10-30VDC	•	•	•	•	•	•	•	•	•
Preset Key /w LED (not IP67)	•	•	LED only	•					
Diagnostics									
- LED-Indicators (Bus cover)					•	•	•	•	•
- Warning Bit		•			•				
- Alarm Bit	(Option)	•			•	•	•	•	•
- Alarm Output	(Option)	(Option)	•	•					
- Temperature Measuring	(Option)	•							
Connection for "tico"					•	•	•	•	•
Programmable (PC, over Parallel Port)	•	•			•	•	•	•	•
Programmable (over Bus)					•	•	•	•	•
Inputs									
- Latch only Binary			•	•					
- Direction	•	•	•	•					
- Tristate			•	•					
Special Functions									
- Speed					•			•	•
- Acceleration					•			•	•
- Hour Meter					•				•
- Round Axis									•
- Limit Values									•
Optional 1 Vpp signal	•	•							
Connections									
Bus cover 3 PG					•	•	•	•	•
Bus cover 2 PG +M12 f. "tico"					•	•	•	•	•
Bus cover 2 x PG						•			
Bus cover 2 x Conin 9p.							•		
Cable Ax/Rad	•	•	•	•					
Cable Ax / Rad 0.1m+37p. Sub-D				•					
Conin 9p. Ax/Rad CW / CCW							•		
Conin 12p. Ax/Rad CW / CCW	•	•						•	•
Conin 17p. Ax/Rad CW / CCW			•						
M12 8p. Ax/Rad	•	•							
Mechanical									
Synchro Flange, Shaft 6 x 10 mm, IP64 or IP67	•	•	•	•	•	•	•	•	•
Clamping Flange, Shaft 10 x 19.5 mm, IP64 or IP67	•	•	•	•	•	•	•	•	•
Hub Shaft 10 mm, Spring tether, IP64	•	•	•	•	•	•	•	•	•
Hub Shaft 12 mm, Spring tether, IP64	•	•	•	•	•	•	•	•	•

Technical Data ACURO industry

Version SSI/BiSS

HENGSTLER

	Acuro industry	Acuro drive
Electrical		
Supply voltage	5V, -5% / +10% or 10 – 30V	5V, -5% / +10%
Intrinsic current consumption ST/MT	50 mA / 100 mA	50 mA / 100 mA
Interface	Standard SSI or BiSS	Standard SSI or BiSS
Lines / Drivers	Clock and data / RS422	Clock and data / RS422
Output code	Binary or Gray; parameterization via Acuro soft	Binary or Gray; parameterization via Acuro soft
Singleturn resolution	10 – 17 bits depending on version; max 13 bits in SSI-MT Gray Excess: 360, 720 steps	13 bits (SSI) 22 bits (BiSS)
Multiturn resolution	12 Bit	12 Bit
Incremental signals, optional	Sine – cosine 1 Vpp	Sine – cosine 1 Vpp
Number of increments	2,048	2,048
3dB limiting frequency	500 kHz	500 kHz
Absolute accuracy	± 35''	± 35''
Repeatability	± 7''	± 7''
Connection	Cable for flange-connector (Conin, axial or radial)	PCB pinheader 12p / 14p
Parameterization	Resolution, code type, sense of rotation, warning, alarm	Resolution, code type, sense of rotation, warning, alarm
Control input	<u>Direction</u>	–
Reset Key	Latch via parameterization	–
Alarm output	Alarm Bit (SSI option), warning Bit and alarm Bit (BiSS)	Alarm Bit (SSI option), warning Bit and alarm Bit (BiSS)
Status LED	Green = ok.; Red = Alarm	–
Mechanical		
Housing diameter	58 mm	58 mm
Protection, shaft input	IP 64 or IP 67	IP 40
IP Protection class, housing	IP 67	IP 40
Flange types	Synchro-flange, clamping flange, spring tether	Spring tether
Shaft diameter	Solid shaft 6 mm, 10 mm; Hub shaft 10 mm, 12 mm	Tapered shaft 10 mm
Max. speed	Continuous operation 10,000 min ⁻¹ , short-term 12,000 min ⁻¹	Continuous operation 10,000 min ⁻¹ , short-term 12,000 min ⁻¹
Starting Torque	≤ 0,01 Nm	≤ 0,01 Nm
Moment of inertia, rotor	3.8 x 10 ⁻⁶ kgm ²	3.8 x 10 ⁻⁶ kgm ²
Tolerance axial	± 1.5 mm	± 1.5 mm
Tolerance radial	± 0.2 mm	± 0.2 mm
Absolute max. shaft load	∅ 6 mm axial 60 N (13 lbs), radial 110 N (24 lbs) ∅ 10 mm axial 107 N (24 lbs), radial 60 N (35 lbs)	
Bearing life	1x10 ¹⁰ revolutions (typ.) at 35% of full rated shaft load 1x10 ⁹ revolutions (typ.) at 75% of full rated shaft load 1x10 ⁸ revolutions (typ.) at 100% of full rated shaft load for example 30,000 h at 6,000 RPM with a 13 lb radial load (10 mm shaft)	
Shock resistance DIN EN 60068-2-27	1,000 m/s ² (6 ms)	1,000 m/s ² (6 ms)
Vibration resistance DIN EN 60068-2-6	100 m/s ² (10 ... 2,000 Hz)	100 m/s ² (10 ... 2,000 Hz)
Operating temperature	-40...+100 °C	-15...+120 °C
Storage temperature	-40...+85 °C	-15...+85 °C (due to packaging)
Weight, approx. (ST / MT)	260 g / 310 g	260 g / 310 g

Technical Data ACURO industry

Variant-specific Data – Interbus

HENGSTLER

Electrical	
Supply voltage	10 – 30V
Intrinsic current consumption ST/MT	220 mA / 250 mA
Interface	Interbus, ENCOM Profile K3 (parameterizable), K2
Programmable	Direction, Scaling Factor, Preset, Offset
Output code	32 Bit Binary
Baudrate	500 kBaud according to ENCOM
Data transfer	Supi address 0123, Byte Nr. 3210
ID.Code K3	37H (= 55 decimal)
Resolution Singleturn	10 to 17 Bit depending on version, 12 Bit for MT version
Resolution Multiturn	12 Bit
Connection	Bus cover with T-manifold
Mechanical	
Operating temperature	-40 °C to +85 °C
Weight (approx.), ST / MT	350 g / 400 g

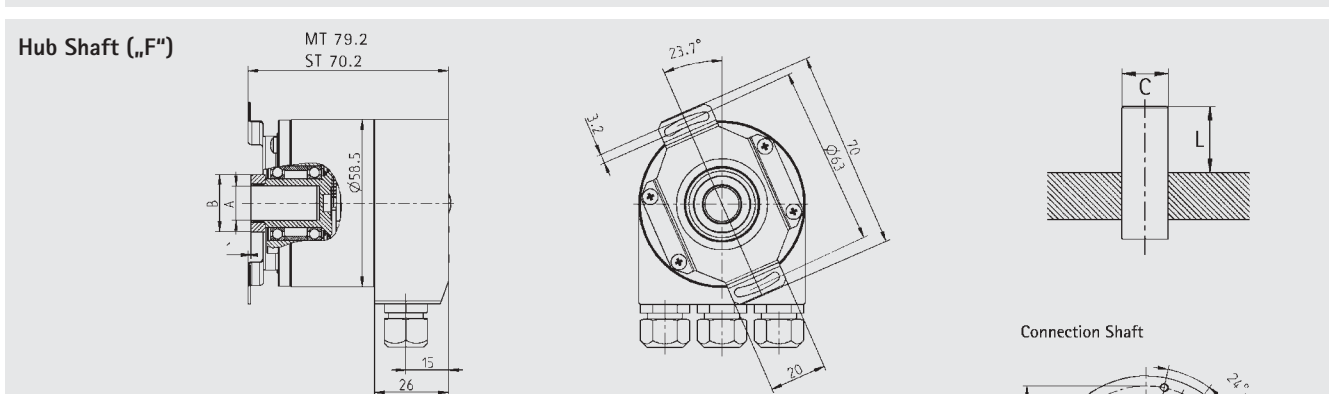
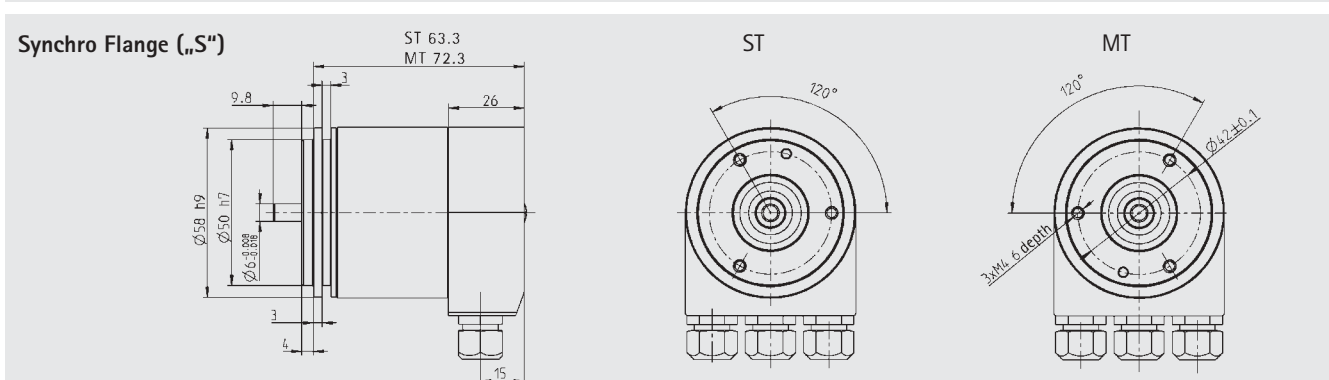
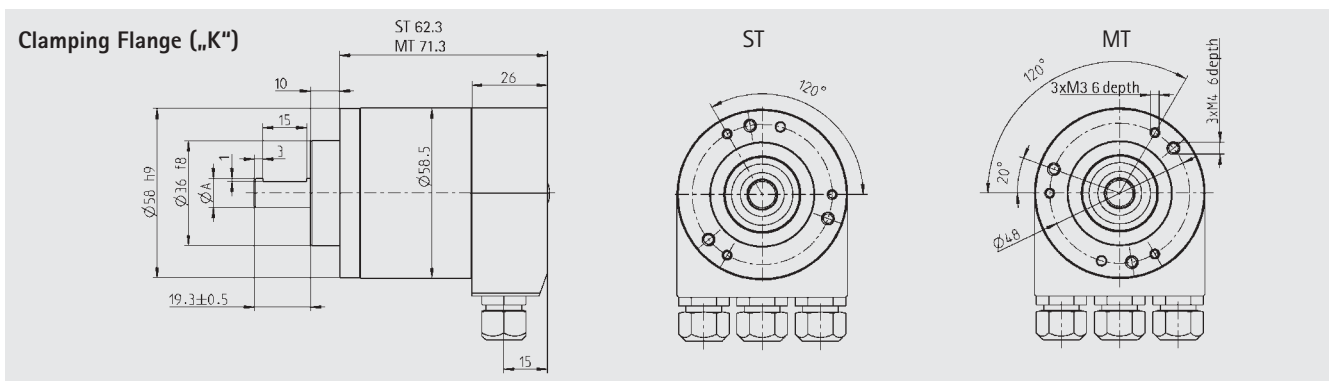
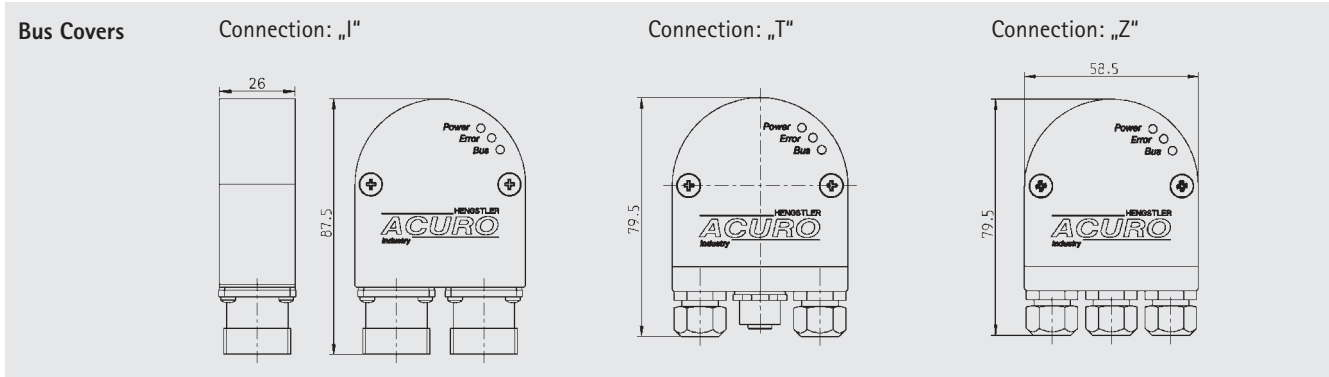
Ordering Data ACURO industry Interbus

AC 58 / 1212 E K.42 I3 I						
Resolution	Supply voltage	Flange	Protection	Shaft-Ø	Interface	Connection
0010 10 Bit ST	E = 10-30V	S. 41 Synchro	IP 64	6 mm	I2 = Interbus K2	I = Double Conin 9p. rad cw
0012 12 Bit ST		S. 71 Synchro	IP 67	6 mm	I3 = Interbus K3	Z = Bus cover 3x cable gland
0013 13 Bit ST		K. 42 Clamping	IP 64	10 mm		T = Bus cover 4 pol. M12
0014 14 Bit ST		K. 72 Clamping	IP 67	10 mm		for "tico"-indicator + 2x cable gland
1212 12 Bit MT + 12 Bit ST		F. 42 Spring tether	IP 64	10 mm hollow shaft		
		F. 47 Spring tether	IP 64	12 mm hollow shaft		

Note:
Bus Connection radial/axial via cable, optional on request.

- **Diagnosis Kit** 230 VAC for encoder with bus cover, incl. ACURO soft and "tico" indicator, Art. No. 1 565 070
- "tico"-indicator, Art. No. 0 731 205
- Connection cable bus cover (T) to "tico", 1,5m, Art. No. 3 539 575

Bus Covers



Dimensions

	Dimensions		Unit
Hub Shaft - ØA	10 ^{+0.012}	12 ^{+0.012}	mm
Connection Shaft - ØC	10 ^{+0.07}	12 ^{+0.07}	mm
Clamping Flange - ØB	18	20	mm
L min.	15	18	mm
L max.	20	20	mm
Shaft Code	"2"	"7"	

L = Depth of insertion of connection shaft in encoder

ACURO industry

Overview Functions and Versions

HENGSTLER

	SSI	BiSS	Parallel ST	Parallel MT	Profibus	DeviceNet	Interbus K3	CAN	CANopen
Electrical									
Supply 5VDC	(Option)	•							
Supply 10-30VDC	•	•	•	•	•	•	•	•	•
Preset Key /w LED (not IP67)	•	•	LED only	•					
Diagnostics									
- LED-Indicators (Bus cover)					•	•	•	•	•
- Warning Bit		•			•				
- Alarm Bit	(Option)	•			•	•	•	•	•
- Alarm Output	(Option)	(Option)	•	•					
- Temperature Measuring	(Option)	•							
Connection for "tico"					•	•	•	•	•
Programmable (PC, over Parallel Port)	•	•			•	•	•	•	•
Programmable (over Bus)					•	•	•	•	•
Inputs									
- Latch only Binary			•	•					
- Direction	•	•	•	•					
- Tristate			•	•					
Special Functions									
- Speed					•			•	•
- Acceleration					•			•	•
- Hour Meter					•				•
- Round Axis									•
- Limit Values									•
Optional 1 Vpp signal	•	•							
Connections									
Bus cover 3 PG					•	•	•	•	•
Bus cover 2 PG +M12 f. "tico"					•	•	•	•	•
Bus cover 2 x PG						•			
Bus cover 2 x Conin 9p.							•		
Cable Ax/Rad	•	•	•	•					
Cable Ax / Rad 0.1m+37p. Sub-D				•					
Conin 9p. Ax/Rad CW / CCW							•		
Conin 12p. Ax/Rad CW / CCW	•	•						•	•
Conin 17p. Ax/Rad CW / CCW			•						
M12 8p. Ax/Rad	•	•							
Mechanical									
Synchro Flange, Shaft 6 x 10 mm, IP64 or IP67	•	•	•	•	•	•	•	•	•
Clamping Flange, Shaft 10 x 19.5 mm, IP64 or IP67	•	•	•	•	•	•	•	•	•
Hub Shaft 10 mm, Spring tether, IP64	•	•	•	•	•	•	•	•	•
Hub Shaft 12 mm, Spring tether, IP64	•	•	•	•	•	•	•	•	•

Technical Data ACURO industry

Version SSI/BiSS

HENGSTLER

	Acuro industry	Acuro drive
Electrical		
Supply voltage	5V, -5% / +10% or 10 – 30V	5V, -5% / +10%
Intrinsic current consumption ST/MT	50 mA / 100 mA	50 mA / 100 mA
Interface	Standard SSI or BiSS	Standard SSI or BiSS
Lines / Drivers	Clock and data / RS422	Clock and data / RS422
Output code	Binary or Gray; parameterization via Acuro soft	Binary or Gray; parameterization via Acuro soft
Singleturn resolution	10 – 17 bits depending on version; max 13 bits in SSI-MT Gray Excess: 360, 720 steps	13 bits (SSI) 22 bits (BiSS)
Multiturn resolution	12 Bit	12 Bit
Incremental signals, optional	Sine – cosine 1 Vpp	Sine – cosine 1 Vpp
Number of increments	2,048	2,048
3dB limiting frequency	500 kHz	500 kHz
Absolute accuracy	± 35''	± 35''
Repeatability	± 7''	± 7''
Connection	Cable for flange-connector (Conin, axial or radial)	PCB pinheader 12p /14p
Parameterization	Resolution, code type, sense of rotation, warning, alarm	Resolution, code type, sense of rotation, warning, alarm
Control input	<u>Direction</u>	–
Reset Key	Latch via parameterization	–
Alarm output	Alarm Bit (SSI option), warning Bit and alarm Bit (BiSS)	Alarm Bit (SSI option), warning Bit and alarm Bit (BiSS)
Status LED	Green = ok.; Red = Alarm	–
Mechanical		
Housing diameter	58 mm	58 mm
Protection, shaft input	IP 64 or IP 67	IP 40
IP Protection class, housing	IP 67	IP 40
Flange types	Synchro-flange, clamping flange, spring tether	Spring tether
Shaft diameter	Solid shaft 6 mm, 10 mm; Hub shaft 10 mm, 12 mm	Tapered shaft 10 mm
Max. speed	Continuous operation 10,000 min ⁻¹ , short-term 12,000 min ⁻¹	Continuous operation 10,000 min ⁻¹ , short-term 12,000 min ⁻¹
Starting Torque	≤ 0,01 Nm	≤ 0,01 Nm
Moment of inertia, rotor	3.8 x 10 ⁻⁶ kgm ²	3.8 x 10 ⁻⁶ kgm ²
Tolerance axial	± 1.5 mm	± 1.5 mm
Tolerance radial	± 0.2 mm	± 0.2 mm
Absolute max. shaft load	∅ 6 mm axial 60 N (13 lbs), radial 110 N (24 lbs) ∅ 10 mm axial 107 N (24 lbs), radial 60 N (35 lbs)	
Bearing life	1x10 ¹⁰ revolutions (typ.) at 35% of full rated shaft load 1x10 ⁹ revolutions (typ.) at 75% of full rated shaft load 1x10 ⁸ revolutions (typ.) at 100% of full rated shaft load for example 30,000 h at 6,000 RPM with a 13 lb radial load (10 mm shaft)	
Shock resistance DIN EN 60068-2-27	1,000 m/s ² (6 ms)	1,000 m/s ² (6 ms)
Vibration resistance DIN EN 60068-2-6	100 m/s ² (10 ... 2,000 Hz)	100 m/s ² (10 ... 2,000 Hz)
Operating temperature	-40...+100 °C	-15...+120 °C
Storage temperature	-40...+85 °C	-15...+85 °C (due to packaging)
Weight, approx. (ST / MT)	260 g / 310 g	260 g / 310 g

Technical Data ACURO industry

Version-specific Data – Profibus

HENGSTLER

Electrical	
Supply voltage	10 – 30 V
Intrinsic current consumption	220 mA / 250 mA
Interface	Profibus-DP, Encoder Profile
Certified	PNO
Programmable	According to Class 2: Resolution, Preset, Direction
Output code	Binary
Baudrate	9,6 kBaud – 12 MBaud
Resolution Singleturn	10 – 14 Bit depending on version
Resolution Multiturn	12 Bit
Integrated Special functions	Speed, Acceleration, Operating Time
Connection	Bus cover with T-manifold
Mechanical	
Operating temperature	-40 °C to +85 °C
Weight (approx.) ST / MT	350 g / 400 g

Note: Preset only via bus, no key.

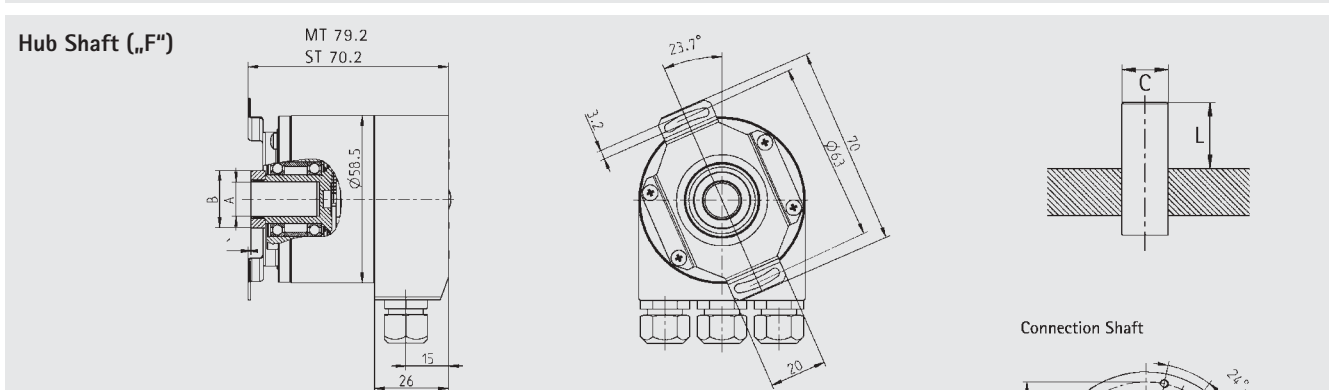
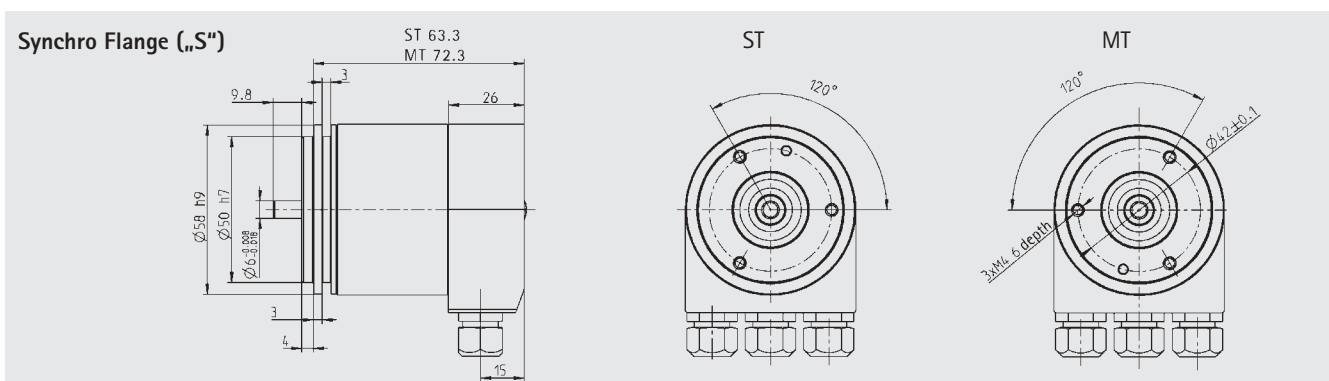
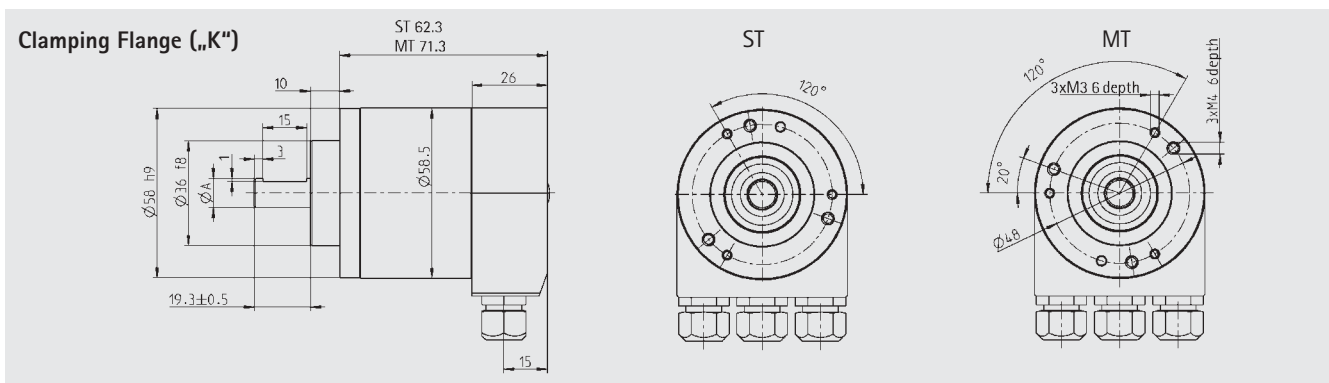
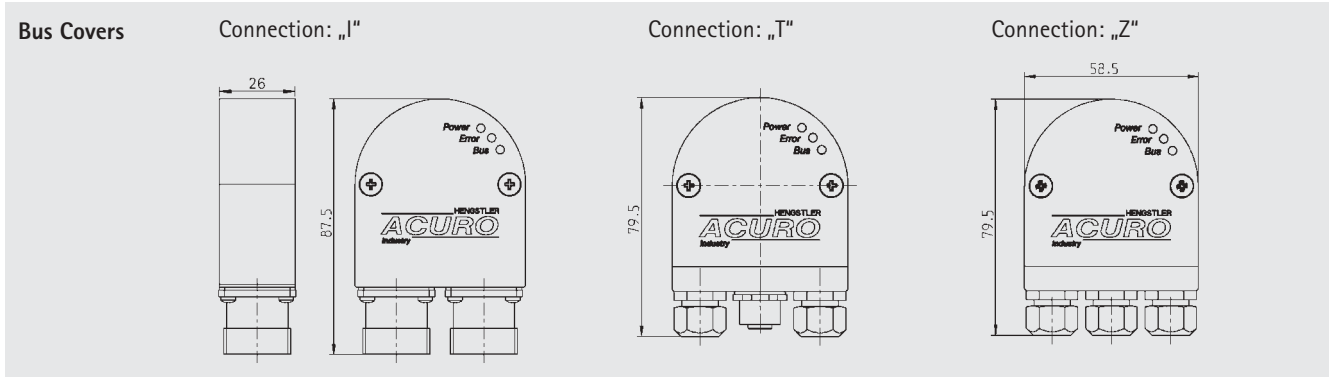
Ordering Data ACURO industry Profibus

AC 58 / 1212 E K.42 DP Z						
Resolution	Supply voltage	Flange	Protection	Shaft-Ø	Interface	Connection
0010 10 Bit ST	E = 10-30V	S. 41 Synchro	IP 64	6 mm	DP = Profibus DP	Z = Bus cover 3x cable gland
0012 12 Bit ST		S. 71 Synchro	IP 67	6 mm		T = Bus cover 4 pol. M12
0013 13 Bit ST		K. 42 Clamping	IP 64	10 mm		for "tico"-indicator + 2x cable gland
0014 14 Bit ST		K. 72 Clamping	IP 67	10 mm		
1212 12 Bit MT + 12 Bit ST		F. 42 Spring tether	IP 64	10 mm Hub shaft		
1213 12 Bit MT + 13 Bit ST		F. 47 Spring tether	IP 64	12 mm Hub shaft		
1214 12 Bit MT + 14 Bit ST						

Note:
 Bus Connections radial/axial via connector and cable, optional on request.

- **Diagnosis Kit** 230 VAC for encoder with bus cover, incl. ACURO soft and "tico" indicator, Art. No. 1 565 070
- "tico"-indicator, Art. No. 0 731 205
- Connection cable bus cover (T) to "tico", 1.5m, Art. No. 3 539 575

Bus Covers



Dimensions

	Dimensions		Unit
Hub Shaft - ØA	10 ^{+0.012}	12 ^{+0.012}	mm
Connection Shaft - ØC	10 ^{+0.07}	12 ^{+0.07}	mm
Clamping Flange - ØB	18	20	mm
L min.	15	18	mm
L max.	20	20	mm
Shaft Code	"2"	"7"	

L = Depth of insertion of connection shaft in encoder

ACURO industry

Overview Functions and Versions

HENGSTLER

	SSI	BiSS	Parallel ST	Parallel MT	Profibus	DeviceNet	Interbus K3	CAN	CANopen
Electrical									
Supply 5VDC	(Option)	•							
Supply 10-30VDC	•	•	•	•	•	•	•	•	•
Preset Key /w LED (not IP67)	•	•	LED only	•					
Diagnostics									
- LED-Indicators (Bus cover)					•	•	•	•	•
- Warning Bit		•			•				
- Alarm Bit	(Option)	•			•	•	•	•	•
- Alarm Output	(Option)	(Option)	•	•					
- Temperature Measuring	(Option)	•							
Connection for "tico"					•	•	•	•	•
Programmable (PC, over Parallel Port)	•	•			•	•	•	•	•
Programmable (over Bus)					•	•	•	•	•
Inputs									
- Latch only Binary			•	•					
- Direction	•	•	•	•					
- Tristate			•	•					
Special Functions									
- Speed					•			•	•
- Acceleration					•			•	•
- Hour Meter					•				•
- Round Axis									•
- Limit Values									•
Optional 1 Vpp signal	•	•							
Connections									
Bus cover 3 PG					•	•	•	•	•
Bus cover 2 PG +M12 f. "tico"					•	•	•	•	•
Bus cover 2 x PG						•			
Bus cover 2 x Conin 9p.							•		
Cable Ax/Rad	•	•	•	•					
Cable Ax / Rad 0.1m+37p. Sub-D				•					
Conin 9p. Ax/Rad CW / CCW							•		
Conin 12p. Ax/Rad CW / CCW	•	•						•	•
Conin 17p. Ax/Rad CW / CCW			•						
M12 8p. Ax/Rad	•	•							
Mechanical									
Synchro Flange, Shaft 6 x 10 mm, IP64 or IP67	•	•	•	•	•	•	•	•	•
Clamping Flange, Shaft 10 x 19.5 mm, IP64 or IP67	•	•	•	•	•	•	•	•	•
Hub Shaft 10 mm, Spring tether, IP64	•	•	•	•	•	•	•	•	•
Hub Shaft 12 mm, Spring tether, IP64	•	•	•	•	•	•	•	•	•

Technical Data ACURO industry

Version SSI/BiSS

HENGSTLER

	Acuro industry	Acuro drive
Electrical		
Supply voltage	5V, -5% / +10% or 10 – 30V	5V, -5% / +10%
Intrinsic current consumption ST/MT	50 mA / 100 mA	50 mA / 100 mA
Interface	Standard SSI or BiSS	Standard SSI or BiSS
Lines / Drivers	Clock and data / RS422	Clock and data / RS422
Output code	Binary or Gray; parameterization via Acuro soft	Binary or Gray; parameterization via Acuro soft
Singleturn resolution	10 – 17 bits depending on version; max 13 bits in SSI-MT Gray Excess: 360, 720 steps	13 bits (SSI) 22 bits (BiSS)
Multiturn resolution	12 Bit	12 Bit
Incremental signals, optional	Sine – cosine 1 Vpp	Sine – cosine 1 Vpp
Number of increments	2,048	2,048
3dB limiting frequency	500 kHz	500 kHz
Absolute accuracy	± 35''	± 35''
Repeatability	± 7''	± 7''
Connection	Cable for flange-connector (Conin, axial or radial)	PCB pinheader 12p / 14p
Parameterization	Resolution, code type, sense of rotation, warning, alarm	Resolution, code type, sense of rotation, warning, alarm
Control input	<u>Direction</u>	–
Reset Key	Latch via parameterization	–
Alarm output	Alarm Bit (SSI option), warning Bit and alarm Bit (BiSS)	Alarm Bit (SSI option), warning Bit and alarm Bit (BiSS)
Status LED	Green = ok.; Red = Alarm	–
Mechanical		
Housing diameter	58 mm	58 mm
Protection, shaft input	IP 64 or IP 67	IP 40
IP Protection class, housing	IP 67	IP 40
Flange types	Synchro-flange, clamping flange, spring tether	Spring tether
Shaft diameter	Solid shaft 6 mm, 10 mm; Hub shaft 10 mm, 12 mm	Tapered shaft 10 mm
Max. speed	Continuous operation 10,000 min ⁻¹ , short-term 12,000 min ⁻¹	Continuous operation 10,000 min ⁻¹ , short-term 12,000 min ⁻¹
Starting Torque	≤ 0,01 Nm	≤ 0,01 Nm
Moment of inertia, rotor	3.8 x 10 ⁻⁶ kgm ²	3.8 x 10 ⁻⁶ kgm ²
Tolerance axial	± 1.5 mm	± 1.5 mm
Tolerance radial	± 0.2 mm	± 0.2 mm
Absolute max. shaft load	∅ 6 mm axial 60 N (13 lbs), radial 110 N (24 lbs) ∅ 10 mm axial 107 N (24 lbs), radial 60 N (35 lbs)	
Bearing life	1x10 ¹⁰ revolutions (typ.) at 35% of full rated shaft load 1x10 ⁹ revolutions (typ.) at 75% of full rated shaft load 1x10 ⁸ revolutions (typ.) at 100% of full rated shaft load for example 30,000 h at 6,000 RPM with a 13 lb radial load (10 mm shaft)	
Shock resistance DIN EN 60068-2-27	1,000 m/s ² (6 ms)	1,000 m/s ² (6 ms)
Vibration resistance DIN EN 60068-2-6	100 m/s ² (10 ... 2,000 Hz)	100 m/s ² (10 ... 2,000 Hz)
Operating temperature	-40...+100 °C	-15...+120 °C
Storage temperature	-40...+85 °C	-15...+85 °C (due to packaging)
Weight, approx. (ST / MT)	260 g / 310 g	260 g / 310 g

Technical Data ACURO industry

Version-specific Data – Parallel Interface

HENGSTLER

Electrical	
Supply voltage	10-30V
Intrinsic current consumption	200 mA / 300 mA
Interface	Parallel
Output code	Binary, Gray, Gray Excess
Resolution Singleturn	10 – 14 Bit depending on version 12 Bit in MT version Gray Excess: 360, 720 steps
Resolution Multiturn	12 Bit
Linearity	± 1/2 LSB
Output current	30 mA per Bit, short circuit proof
Alarm output	NPN o.c. max 5 mA
Control inputs	Latch, Direction, Tristate
Connection	Cable or flange-connector (Conin 17-pole), axial or radial, Sub-D 37-pin
Mechanical	
Weight (approx.) ST / MT	350 g / 400 g

Note: Preset key only with MT

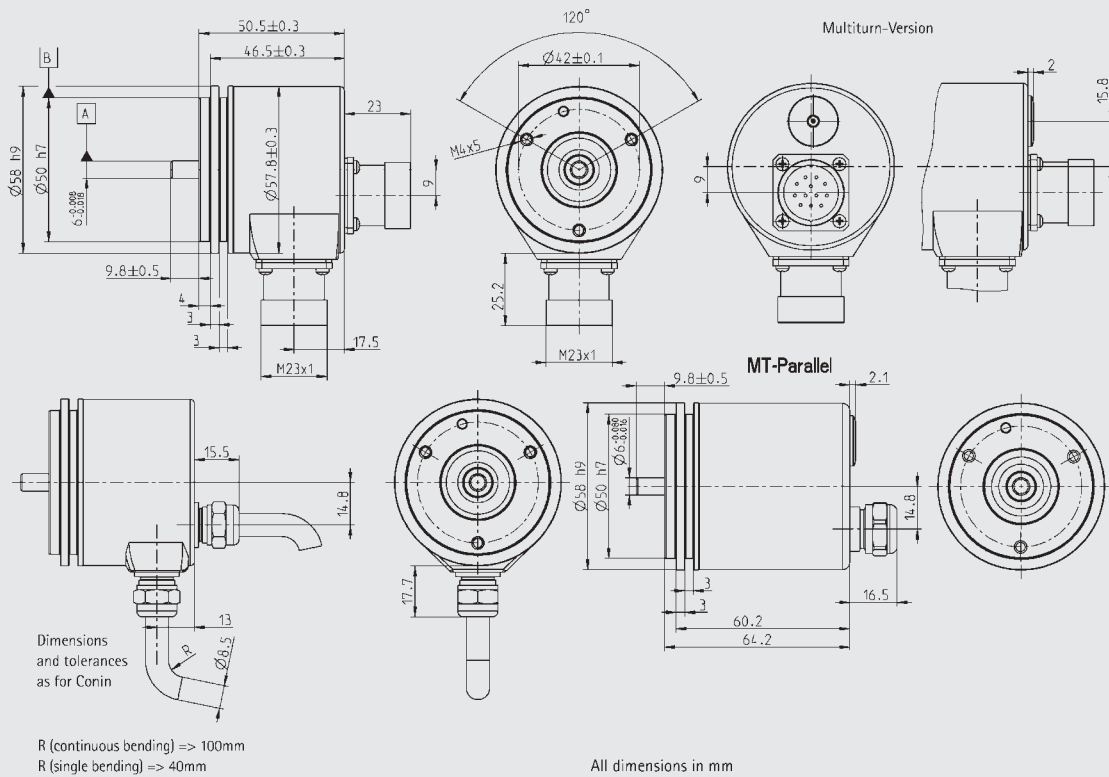
Ordering Data ACURO industry Parallel Interface

AC 58 / 1212 E K.42 PB A - A1 - F

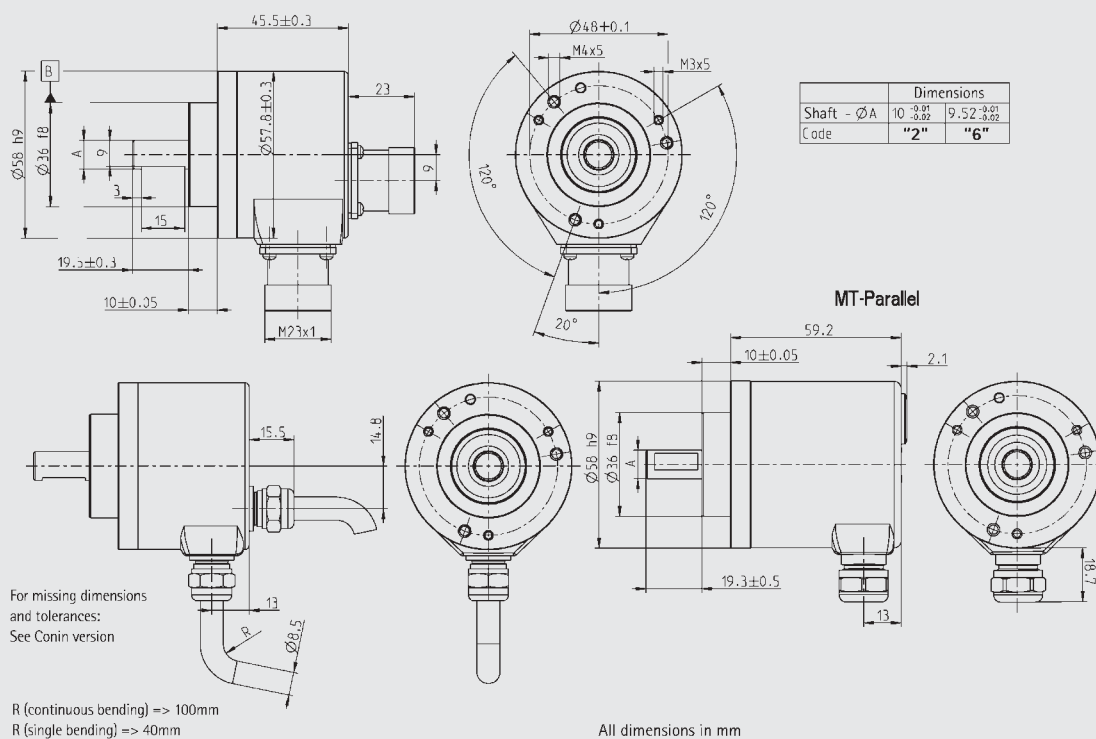
Resolution	Supply Voltage	Flange	Protection	Shaft-Ø	Interface	Connection
0010 10 Bit ST	E = 10-30V	S. 41 Synchro	IP 64	6 mm	PB = Parallel Binary	A = Cable axial (ST, MT)
0012 12 Bit ST		S. 71 Synchro	IP 67	6 mm	PG = Parallel Gray	B = Cable radial (ST, MT)
0013 13 Bit ST		K. 42 Clamping	IP 64	10 mm		U = Conin 17p. axial CCW (ST)
0014 14 Bit ST		K. 72 Clamping	IP 67	10 mm		V = Conin 17p. radial CCW (ST)
0360 360 increments ST		F. 42 Spring tether	IP 64	10 mm Hub shaft		W = Conin 17p. axial CW (ST)
0720 720 increments ST		F. 47 Spring tether	IP 64	12 mm Hub shaft		Y = Conin 17p. radial CW (ST)
1212 12 Bit MT + 12 Bit ST						A-A1-F = 0,1m Cable axial + 37 pol. Sub-D (MT)
						B-A1-F = 0,1m Cable radial + 37 pol. Sub-D (MT)

Note: Maximum cable length at the encoder is 3m.
For longer cable please use extension cables published in our encoder catalogue.

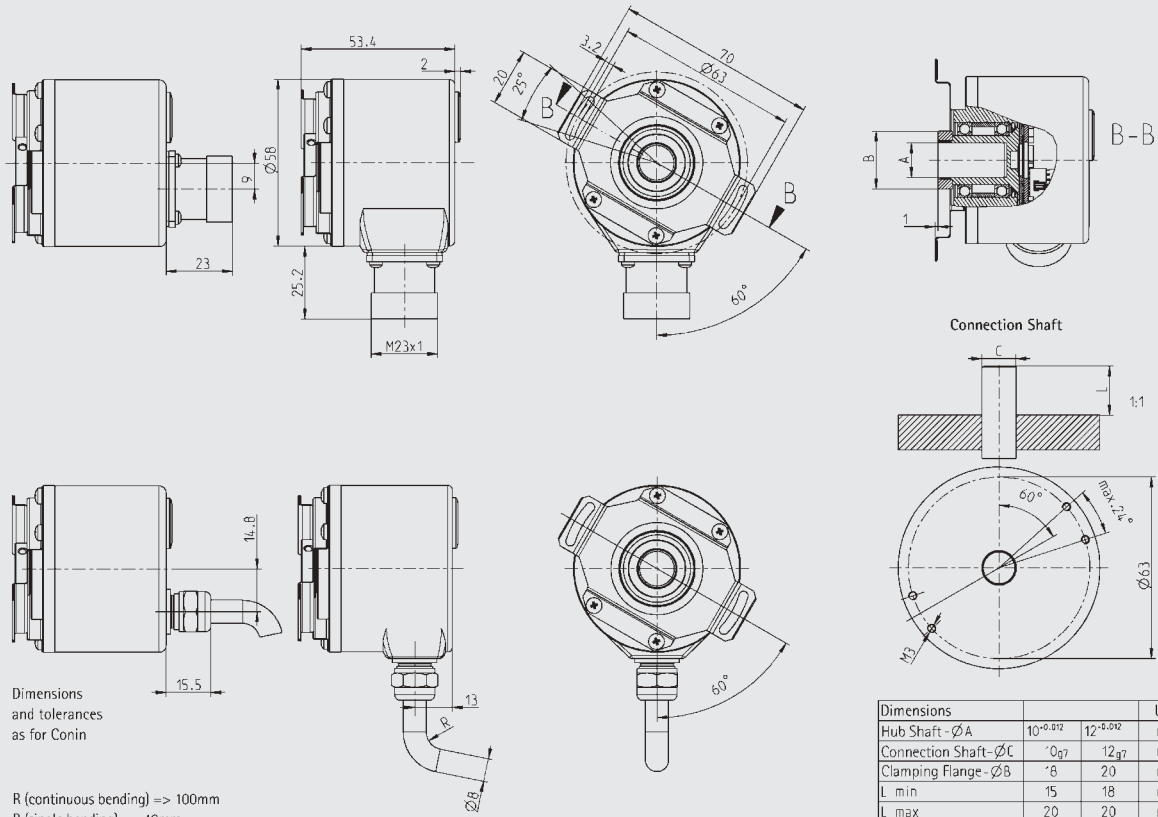
Synchro Flange



Clamping Flange



Hub Shaft



Dimensions			Unit
Hub Shaft - $\varnothing A$	$10^{+0.012}$	$12^{+0.012}$	mm
Connection Shaft - $\varnothing C$	$8^{+0.012}$	$12^{+0.012}$	mm
Clamping Flange - $\varnothing B$	8	20	mm
L min	15	18	mm
L max	20	20	mm

L = Depth of insertion of connection shaft in encoder

ACURO industry

Overview Functions and Versions

HENGSTLER

	SSI	BiSS	Parallel ST	Parallel MT	Profibus	DeviceNet	Interbus K3	CAN	CANopen
Electrical									
Supply 5VDC	(Option)	•							
Supply 10-30VDC	•	•	•	•	•	•	•	•	•
Preset Key /w LED (not IP67)	•	•	LED only	•					
Diagnostics									
- LED-Indicators (Bus cover)					•	•	•	•	•
- Warning Bit		•			•				
- Alarm Bit	(Option)	•			•	•	•	•	•
- Alarm Output	(Option)	(Option)	•	•					
- Temperature Measuring	(Option)	•							
Connection for "tico"					•	•	•	•	•
Programmable (PC, over Parallel Port)	•	•			•	•	•	•	•
Programmable (over Bus)					•	•	•	•	•
Inputs									
- Latch only Binary			•	•					
- Direction	•	•	•	•					
- Tristate			•	•					
Special Functions									
- Speed					•			•	•
- Acceleration					•			•	•
- Hour Meter					•				•
- Round Axis									•
- Limit Values									•
Optional 1 Vpp signal	•	•							
Connections									
Bus cover 3 PG					•	•	•	•	•
Bus cover 2 PG +M12 f. "tico"					•	•	•	•	•
Bus cover 2 x PG						•			
Bus cover 2 x Conin 9p.							•		
Cable Ax/Rad	•	•	•	•					
Cable Ax / Rad 0.1m+37p. Sub-D				•					
Conin 9p. Ax/Rad CW / CCW							•		
Conin 12p. Ax/Rad CW / CCW	•	•						•	•
Conin 17p. Ax/Rad CW / CCW			•						
M12 8p. Ax/Rad	•	•							
Mechanical									
Synchro Flange, Shaft 6 x 10 mm, IP64 or IP67	•	•	•	•	•	•	•	•	•
Clamping Flange, Shaft 10 x 19.5 mm, IP64 or IP67	•	•	•	•	•	•	•	•	•
Hub Shaft 10 mm, Spring tether, IP64	•	•	•	•	•	•	•	•	•
Hub Shaft 12 mm, Spring tether, IP64	•	•	•	•	•	•	•	•	•

Technical Data ACURO industry

Version SSI/BiSS

HENGSTLER

	Acuro industry	Acuro drive
Electrical		
Supply voltage	5V, -5% / +10% or 10 – 30V	5V, -5% / +10%
Intrinsic current consumption ST/MT	50 mA / 100 mA	50 mA / 100 mA
Interface	Standard SSI or BiSS	Standard SSI or BiSS
Lines / Drivers	Clock and data / RS422	Clock and data / RS422
Output code	Binary or Gray; parameterization via Acuro soft	Binary or Gray; parameterization via Acuro soft
Singleturn resolution	10 – 17 bits depending on version; max 13 bits in SSI-MT Gray Excess: 360, 720 steps	13 bits (SSI) 22 bits (BiSS)
Multiturn resolution	12 Bit	12 Bit
Incremental signals, optional	Sine – cosine 1 Vpp	Sine – cosine 1 Vpp
Number of increments	2,048	2,048
3dB limiting frequency	500 kHz	500 kHz
Absolute accuracy	± 35''	± 35''
Repeatability	± 7''	± 7''
Connection	Cable for flange-connector (Conin, axial or radial)	PCB pinheader 12p / 14p
Parameterization	Resolution, code type, sense of rotation, warning, alarm	Resolution, code type, sense of rotation, warning, alarm
Control input	<u>Direction</u>	–
Reset Key	Latch via parameterization	–
Alarm output	Alarm Bit (SSI option), warning Bit and alarm Bit (BiSS)	Alarm Bit (SSI option), warning Bit and alarm Bit (BiSS)
Status LED	Green = ok.; Red = Alarm	–
Mechanical		
Housing diameter	58 mm	58 mm
Protection, shaft input	IP 64 or IP 67	IP 40
IP Protection class, housing	IP 67	IP 40
Flange types	Synchro-flange, clamping flange, spring tether	Spring tether
Shaft diameter	Solid shaft 6 mm, 10 mm; Hub shaft 10 mm, 12 mm	Tapered shaft 10 mm
Max. speed	Continuous operation 10,000 min ⁻¹ , short-term 12,000 min ⁻¹	Continuous operation 10,000 min ⁻¹ , short-term 12,000 min ⁻¹
Starting Torque	≤ 0,01 Nm	≤ 0,01 Nm
Moment of inertia, rotor	3.8 x 10 ⁻⁶ kgm ²	3.8 x 10 ⁻⁶ kgm ²
Tolerance axial	± 1.5 mm	± 1.5 mm
Tolerance radial	± 0.2 mm	± 0.2 mm
Absolute max. shaft load	∅ 6 mm axial 60 N (13 lbs), radial 110 N (24 lbs) ∅ 10 mm axial 107 N (24 lbs), radial 60 N (35 lbs)	
Bearing life	1x10 ¹⁰ revolutions (typ.) at 35% of full rated shaft load 1x10 ⁹ revolutions (typ.) at 75% of full rated shaft load 1x10 ⁸ revolutions (typ.) at 100% of full rated shaft load for example 30,000 h at 6,000 RPM with a 13 lb radial load (10 mm shaft)	
Shock resistance DIN EN 60068-2-27	1,000 m/s ² (6 ms)	1,000 m/s ² (6 ms)
Vibration resistance DIN EN 60068-2-6	100 m/s ² (10 ... 2,000 Hz)	100 m/s ² (10 ... 2,000 Hz)
Operating temperature	-40...+100 °C	-15...+120 °C
Storage temperature	-40...+85 °C	-15...+85 °C (due to packaging)
Weight, approx. (ST / MT)	260 g / 310 g	260 g / 310 g

Ordering Data ACURO industry BiSS

HENGSTLER

AC 58 / 1212 E K.42 BC H

Resolution	Supply voltage	Flange	Protection	Shaft-Ø	Interface	Connection
0010 10 Bit ST	A = 5V	S. 41 Synchro	IP 64	6 mm	BI = BiSS (Digital)	A = Cable axial
0012 12 Bit ST	E = 10-30V	S. 71 Synchro	IP 67	6 mm	BC = BiSS (+SinCos 1Vss)	B = Cable radial
0013 13 Bit ST		K. 42 Clamping	IP 64	10 mm		C = Conin 12p. ax. cw
0014 14 Bit ST		K. 72 Clamping	IP 67	10 mm		D = Conin 12p. rad. cw
0017 17 Bit ST		F. 42 Spring tether	IP 64	10 mm Hub shaft		G = Conin 12p. ax. ccw
0360 360 increments ST		F. 47 Spring tether	IP 64	12 mm Hub shaft		H = Conin 12p. rad. ccw
0720 720 increments ST						7 = M12, 8p. axial
1212 12 Bit MT + 12 Bit ST						8 = M12, 8p. radial
1213 12 Bit MT + 13 Bit ST						
1214 12 Bit MT + 14 Bit ST						
1217 12 Bit MT + 17 Bit ST						

PC connection cable for ACURO soft, including power pack 230 VA, for 12p. Conin, CCW (suitable for G and H), Code No. 1 565 053.

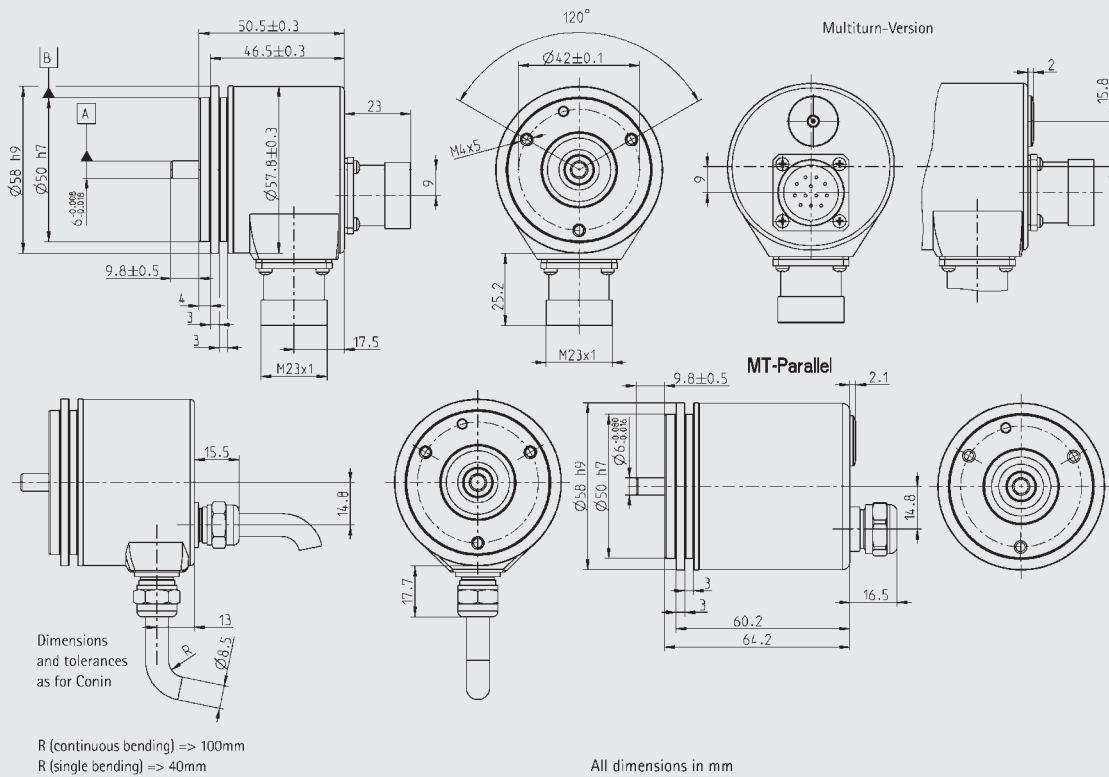
Ordering Data ACURO industry SSI

AC 58 / 1212 E K.42 SG H

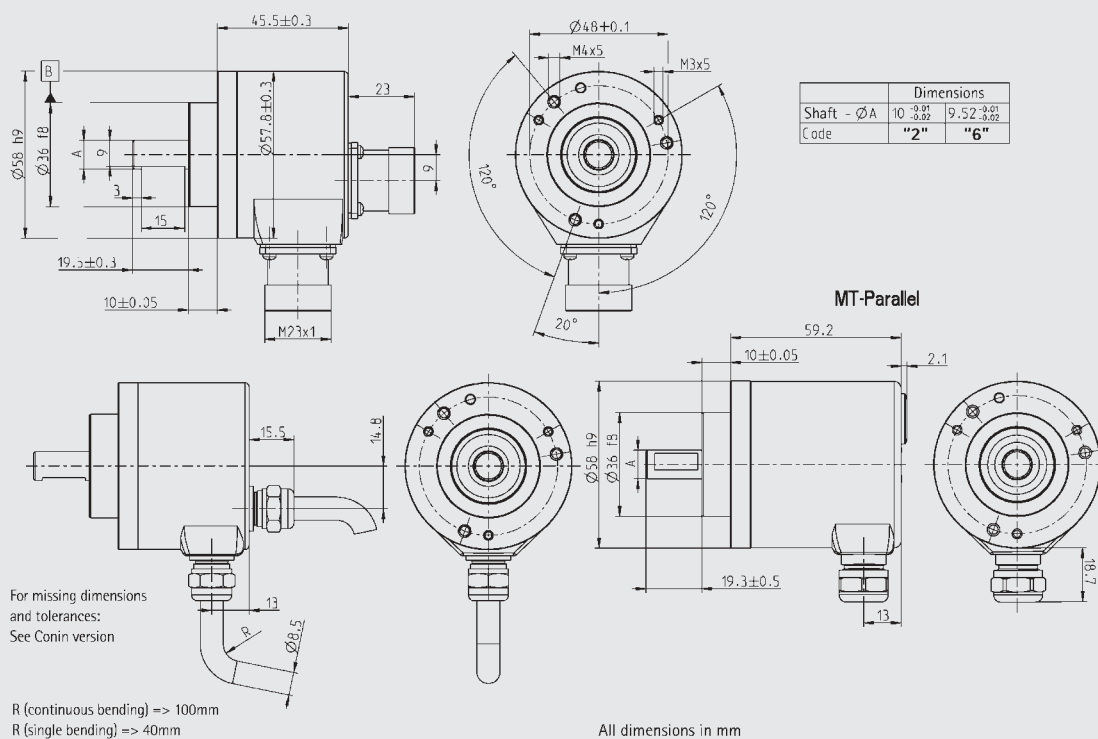
Resolution	Supply Voltage	Flange	Protection	Shaft-Ø	Interface	Connection
0010 10 Bit ST	A = 5V	S. 41 Synchro	IP 64	6 mm	SB = Serial Binary	A = cable axial
0012 12 Bit ST	E = 10-30V	S. 71 Synchro	IP 67	6 mm	SG = SSI Gray	B = cable radial
0013 13 Bit ST		K. 42 Clamping	IP 64	10 mm		C = Conin 12p. ax. cw
0014 14 Bit ST		K. 72 Clamping	IP 67	10 mm		D = Conin 12p. rad. cw
0017 17 Bit ST		F. 42 Spring tether	IP 64	10 mm Hub shaft		G = Conin 12p. ax. ccw
1212 12 Bit MT + 12 Bit ST		F. 47 Spring tether	IP 64	12 mm Hub shaft		H = Conin 12p. rad. ccw
1213 12 Bit MT + 13 Bit ST						7 = M12, 8p. axial
						8 = M12, 8p. radial

PC connection cable for ACURO soft, including power pack 230 VA, for 12p. Conin, CCW (suitable for G and H), Code No. 1 565 053.

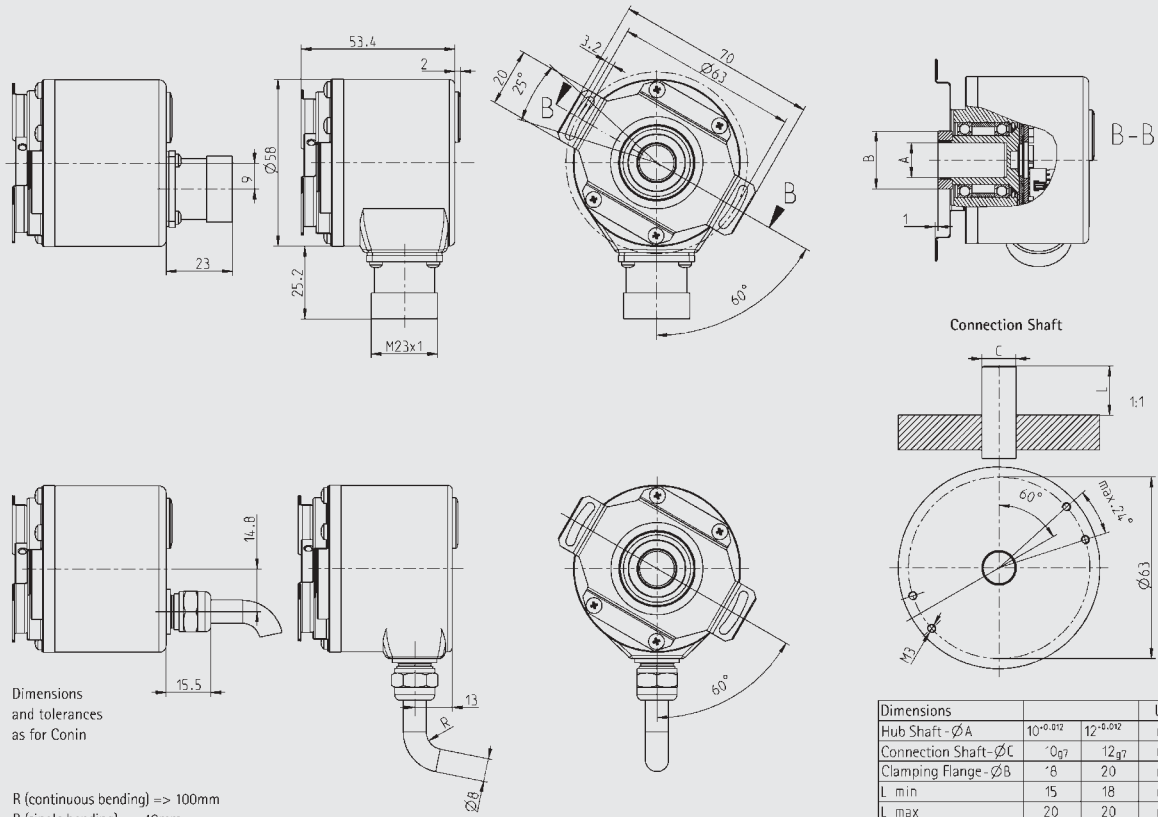
Synchro Flange



Clamping Flange



Hub Shaft



Dimensions			Unit
Hub Shaft - $\varnothing A$	$10^{+0.012}$	$12^{+0.012}$	mm
Connection Shaft - $\varnothing C$	$8^{+0.07}$	$12_{-0.07}$	mm
Clamping Flange - $\varnothing B$	8	20	mm
L min	15	18	mm
L max	20	20	mm

L = Depth of insertion of connection shaft in encoder

ACURO industry

Overview Functions and Versions

HENGSTLER

	SSI	BiSS	Parallel ST	Parallel MT	Profibus	DeviceNet	Interbus K3	CAN	CANopen
Electrical									
Supply 5VDC	(Option)	•							
Supply 10-30VDC	•	•	•	•	•	•	•	•	•
Preset Key /w LED (not IP67)	•	•	LED only	•					
Diagnostics									
- LED-Indicators (Bus cover)					•	•	•	•	•
- Warning Bit		•			•				
- Alarm Bit	(Option)	•			•	•	•	•	•
- Alarm Output	(Option)	(Option)	•	•					
- Temperature Measuring	(Option)	•							
Connection for "tico"					•	•	•	•	•
Programmable (PC, over Parallel Port)	•	•			•	•	•	•	•
Programmable (over Bus)					•	•	•	•	•
Inputs									
- Latch only Binary			•	•					
- Direction	•	•	•	•					
- Tristate			•	•					
Special Functions									
- Speed					•			•	•
- Acceleration					•			•	•
- Hour Meter					•				•
- Round Axis									•
- Limit Values									•
Optional 1 Vpp signal	•	•							
Connections									
Bus cover 3 PG					•	•	•	•	•
Bus cover 2 PG +M12 f. "tico"					•	•	•	•	•
Bus cover 2 x PG						•			
Bus cover 2 x Conin 9p.							•		
Cable Ax/Rad	•	•	•	•					
Cable Ax / Rad 0.1m+37p. Sub-D				•					
Conin 9p. Ax/Rad CW / CCW							•		
Conin 12p. Ax/Rad CW / CCW	•	•						•	•
Conin 17p. Ax/Rad CW / CCW			•						
M12 8p. Ax/Rad	•	•							
Mechanical									
Synchro Flange, Shaft 6 x 10 mm, IP64 or IP67	•	•	•	•	•	•	•	•	•
Clamping Flange, Shaft 10 x 19.5 mm, IP64 or IP67	•	•	•	•	•	•	•	•	•
Hub Shaft 10 mm, Spring tether, IP64	•	•	•	•	•	•	•	•	•
Hub Shaft 12 mm, Spring tether, IP64	•	•	•	•	•	•	•	•	•