



TECHNICAL DATA mechanical

- Overall length : 63 mm for single turn, 73 mm for multi turn including bus cover. All current fieldbus interfaces are available
- The complete bus specific electronics is integrated in the connection cover
- Versions: profibus DP, DeviceNet, CAN, CANopen and Interbus
- Option: Indication "tico"

Housing diameter	58 mm
Protection shaft input	IP 64 or IP 67
Protection housing	IP 67
Flange	Synchro flange, clamping flange, spring plate
Shaft diameter	Full shaft 6 mm, 10 mm; hollow shaft 10 mm, 12 mm
Max. speed	Continuous: 10,000 min ⁻¹ , short term: 12,000 min ⁻¹
Starting torque	≤ 0.01 Nm
Inertia of rotor	3.8 x 10 ⁻⁶ kgm ²
Spring tether (hollow shaft)	
Tolerance axial	± 1.5 mm
Tolerance radial	± 0.2 mm
Max. shaft load	axial 40 N, radial 60 N Ø 6 mm axial 60 N (13 lbs), radial 110 N (24 lbs) Ø 10 mm axial 107 N (24 lbs), radial 160 N (35 lbs)
Bearing life	1 x 10 ¹⁰ revolutions (typ.) at 35% of full rated shaft load 1 x 10 ⁹ revolutions (typ.) at 75% of full rated shaft load 1 x 10 ⁸ revolutions (typ.) at 100% of full rated shaft load For example 30,000 h at 6,000 RPM
Shock resistance DIN EN 60068-2-27	1,000 m/s ² (6 ms)
Vibration resistance DIN EN 60068-2-6	100 m/s ² (10 ... 2,000 Hz)
Operating temperature	- 40 ... 85 °C
Storage temperature	- 40 ... 85 °C
Weight ST / MT	approx. 350 g / 400 g

TECHNICAL DATA electrical

Supply voltage	10-30 V
Intrinsic current consumption ST/MT	220 mA / 250 mA
Interface	Interbus, ENCOM profile K3 (parametrizable), K2
Programmable	Direction, Scale factor, Preset, Offset
Output code	32 Bit Binary
Baud rate	500 KBaud, according ENCOM
Format for data transfer	Supi address 0123, Byte No. 3210
ID Code K3	37H (= 55 decimal)
Resolution single turn	10-17 Bit, depend. on version
Resolution multi turn	12 Bit
Integrated special functions	Speed, Acceleration, round axis, Limit values only CANopen
Connections	Bus cover als T-manifold or twin Conin

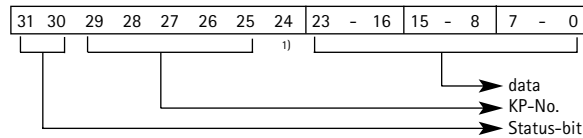
DATA FORMAT INTERBUS K2 (AC 58)

	5 V differential signals (RS 485)				
	ENCOM profile K2, 32 Bit binary process data				
	right adjust, readable only, without control/status bit				
Data format	Sµpi-address	0	1	2	3
(as per Phoenix)	Byte-No.	3	2	1	0
ID-Code	36H (= 54 decimal)				

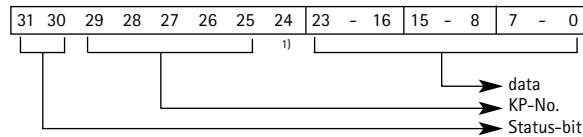
DATA FORMAT INTERBUS K3/LOOP (AC 58)

	5 V differential signals (RS 485)				
	ENCOM profile K3, 32 Bit binary process data				
Data format	Sµpi-address	0	1	2	3
(as per Phoenix)	Byte-No.	3	2	1	0
ID-Code K3	37H (=55 decimal)				
ID Code INTERBUS Loop	B3H (=179 decimal)				

Host at AC 58



AC 58 at Host



¹⁾ Bit 24 not used

PROGRAMMABLE FUNCTIONS FOR INTERBUS K3/LOOP

Function (Programming directly via the bus through transfer of configuration parameters)	Preset values (manufacturer's standard settings)	Customer-specific parameters
Code sequence for clockwise (cw) rotation	ascending	
Offset (CP-No. 05)	0	
Preset value (CP-No. 04)	0	
Scaling factor (CP-No. 08)	1 ¹⁾	

¹⁾ maximum resolution

CONNECTION DIAGRAM INTERBUS K2/K3

Standard pin assignment accord. ENCOM

Pin	Cable with plug (Code A, B)	Connector (2-fold) (internal T-manifold) (Code I)	
	(A/B)	IN (9 Pole, Pins)	OUT (9 Pole, Socket)
1	D02	D01	D02
2	$\overline{D02}$	$\overline{D01}$	$\overline{D02}$
3	DI 2	DI 1	DI 2
4	$\overline{DI 2}$	$\overline{DI 1}$	$\overline{DI 2}$
5	D01	0 VS ^{1) 3)}	0 VS ^{1) 3)}
6	$\overline{D01}$	PE ²⁾	PE ²⁾
7	DI 1	10 ... 30 VDC	10 ... 30 VDC
8	$\overline{DI 1}$	0 V (supply voltage)	0 V (supply voltage)
9	RBST ³⁾	N.C.	RBST ³⁾
10	0 V (supply voltage)		
110	VS (signal output) ^{1) 3)}		
12	10 ... 30 VDC		

¹⁾ Signal output; due to the electrical isolation not identical with 0 V (supply voltage)

²⁾ Functional earthing; connected with the encoder housing

³⁾ If further devices follow in the same busline, a bridge between RBST and 0 VS (signal output) must be made in the mating connector of continuing bus line.

ACCESSORIES

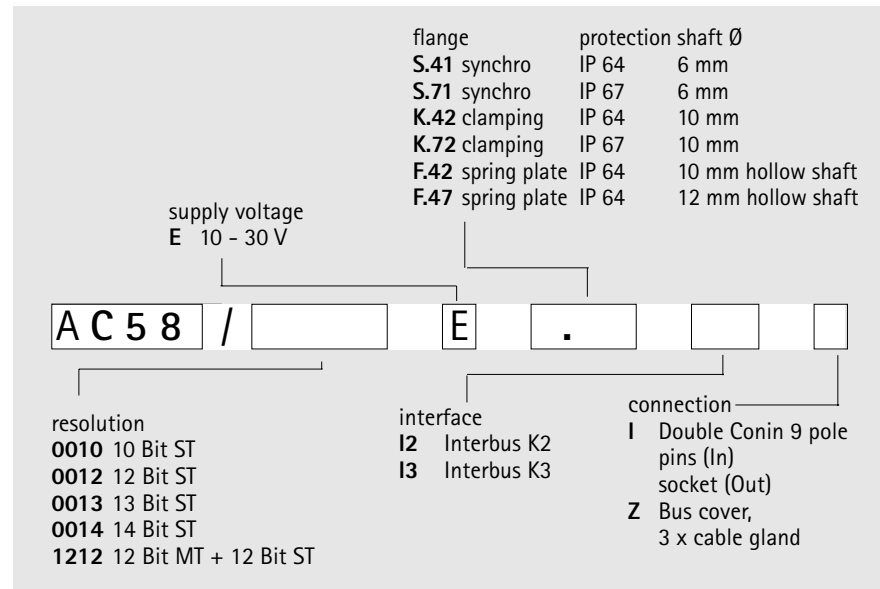
For INTERBUS	Ordering code
Technical manual K3 German	Internet
Technical manual K3 English	Internet
Flange connector 2 fold:	
Connector input (9 pole, socket contact)	3 539 294
Connector output (9 pole, pins)	3 539 293

Mounting	Ordering code
Synchro flange clamping eccentric	0 070 655
spring washer adapter coupling (hub 6/6 mm)	3 520 081
spring washer adapter coupling (hub 10/10 mm)	3 520 088

DIMENSIONAL DRAWINGS

ORDERING DATA

See chapter "Absolute Encoders - Dimensional drawings"



Note:

Bus connections radial / axial over plug and cable, optional on request.