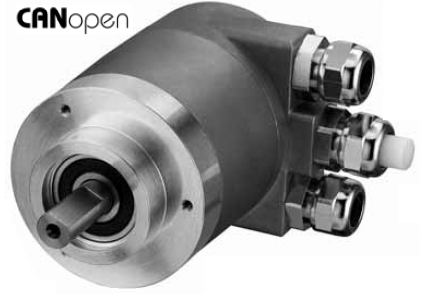


ABSOLUTE ENCODER MyAbs CAN

BAMS 58

- Most compact multiturn shaft encoder
- Latest field bus CANopen, CANlift profiles
- Increased resistance against vibrations and installation mistakes avoids machine stops
- Protection up to IP67
- Wide temperature range -40 °C to +80 °C optional -40 °C to +90 °C

- Fast, simple and error free connection
- Absolutely safe operation even in strong magnetic fields via mechanical drive
- Quick and error free start up
- Real time position, speed, working area or acceleration data
- Synchronous position acquisition



Mechanical characteristics:

Max.speed without shaft sealing (IP 65) up to 70 °C:	9000 min ⁻¹ , continuous 7000 min ⁻¹
Max.speed without shaft sealing (IP 65) up to Tmax:	7000 min ⁻¹ , continuous 4000 min ⁻¹
Max.speed with shaft sealing (IP 67) up to 70 °C:	8000 min ⁻¹ , continuous 6000 min ⁻¹
Max.speed with shaft sealing (IP 67) up to T _{max} :	6000 min ⁻¹ , continuous 3 000 min ⁻¹
Starting torque without shaft sealing (IP 65):	<0.01 Nm
Starting torque with shaft sealing (IP 67):	<0.03 Nm
Moment of inertia:	4.0 x10 ⁻⁶ kgm ²
Radial load capacity of shaft:	80 N
Axial load capacity of shaft:	40 N
Weight:	appr. 0.57 kg with bus terminal cover appr. 0.52 kg with fixed connection
Protection acc.to EN 60 529:	housing: IP 67, shaft: IP 65, opt. IP 67
Working temperature:	-40 °C +80 °C ¹⁾
Materials:	Shaft: stainless steel, Flange: aluminium, Housing: die cast zinc, Cable: PVC
Shock resistance acc. to DIN-IEC 68-2-27:	>1000 m/s ² , 6 ms
Vibration resistance acc. to DIN-IEC 68-2-6:	>100 m/s ² , 55 ... 2000 Hz

¹⁾ cable versions: -30 °C ... +75 °C

General electrical characteristics:

General electrical characteristics	
Supply voltage:	10 ... 30 V DC
Current consumption (w/o output load):	24 V DC, max. 65 mA
Reverse polarity protection at power supply (U _b):	Yes
Conforms to CE requirements acc. to EN 61000-6-1, EN 61000-6-4 and EN 61000-6-3	

Interface characteristics CANopen/CANlift:

Singleturn resolution (max. scaleable):	1 ... 65536 (16 bits), default scale value is set to 8192 (13 bits)
Number of Revolutions:	4096 (12 bits), (scaleable 1 ... 4096)
Code:	Binary
Interface:	CAN High-Speed according ISO 11898, Basic-and Full-CAN, CAN Specification 2.0 B
Protocol:	CANopen profile DS 406 V3.1 with manufacturer-specific add-on's

SET control button (zero or defined value, option)

Protected against accidental activation, can only be pushed in with the tip of a ball pen or similar.

Diagnostic LED (yellow)

LED on at:	optical sensor path faulty (code error, LED error), low voltage and overtemperature or CANlift profile DS 417 V1.1
Baud rate:	10 ... 1000 kbits/s (set by DIP switches/control configurable)
Node address:	1 ... 127 (set by rotary switches /control configurable)
Termination switchable:	Set by DIP switches/control configurable



General information about CAN/CANlift

The CANopen encoders of the My Abs series support the latest CANopen communication profile according to DS 301 V4.02. In addition, device-specific profiles like the encoder profile DS 406 V3.1 and the profile DS 417 V1.1 (for lift applications) are available. The following operating modes may be selected: Polled Mode, Cyclic Mode, Sync Mode and a High Resolution Sync Protocol. Moreover, scale factors, preset values, limit switch values and many other additional parameters can be programmed via the CAN-Bus. When switching the device on, all parameters, which have been saved on an EEPROM to protect them against power failure, are loaded again.

The following output values may be combined in a freely variable way as PDO (PDO mapping): **position, speed, acceleration**, as well

CANopen Communication Profile V4.02

Among others, the following functionality is integrated: Class C2 Functionality

NMT Slave • Heartbeat Protocol • High Resolution Sync Protocol Identity Object • Error Behaviour Object • Variable PDO Mapping self-start programmable (Power on to operational) 3 Sending PDO's • 1 Receiving PDO for synchronous preset operation with minimal jitter • Knot address, baud rate and CANbus Programmable termination

CANopen Encoder Profile V3.1

The following parameters can be programmed:

- Event mode
- Units for speed selectable (Steps/Sec or RPM)
- Factor for speed calculation (e. g. measuring wheel periphery)
- Integration time for speed value of 1 ... 32
- 2 work areas with 2 upper and lower limits and the corresponding output states
- Variable PDO mapping for position, speed, acceleration, work area status
- Extended failure management for position sensing with integrated temperature control
- User interface with visual display of bus and failure status – 3 LED's
- optional – 32 CAM's programmable
- Customer-specific memory – 16 Bytes

As a price-effective variant, encoders with a connector or a cable connection are available, for which the device address and baud rate are modified by the control. The models with bus terminal cover and integrated T-shaped coupler allow a particularly easy installation: bus and power supply are connected very simply thanks to M12 connectors; the device address is set by means of two hexadecimal rotary switches. Furthermore, another DIP switch allows setting the baud rate and switching on a termination resistor. Three LED's located on the back indicate the operating or fault status of the CAN bus, as well as the status of an internal diagnostic.

CANopen Lift Profile DS 417 V1.1

Among others, the following functionality is integrated:

- Car Position Unit
- 2 virtual devices
- 1 virtual device delivers the position in absolute measuring steps (steps)
- 1 virtual device delivers the position as an absolute travel information in mm
- Lift number programmable
- Independent setting of the knot address in relation with the CAN identifier
- Factor for speed calculation (e.g. measuring wheel periphery)
- Integration time for speed value of 1...32
- 2 work areas with 2 upper and lower limits and the corresponding output states
- Variable PDO mapping for position, speed, acceleration, work area status
- Extended failure management for position sensing with integrated temperature control
- User interface with visual display of bus and failure status – 3 LED's

All profiles stated here: **Key-features**

The object 6003h "Preset" is assigned to an integrated key, accessible from the outside "Watchdog-controlled" device

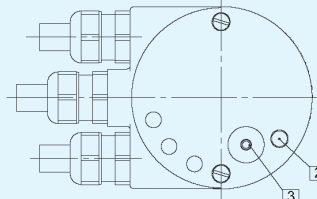
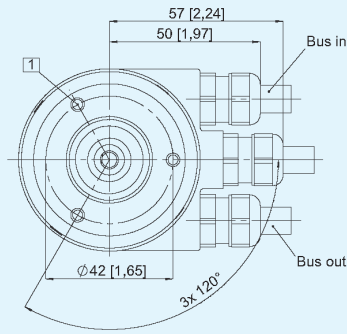
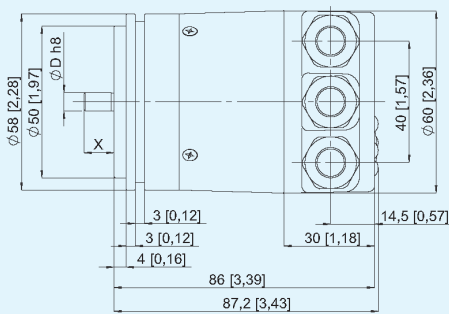
ABSOLUTE ENCODER MyAbs CAN

BAMS 58

With removable bus terminal cover

ø 58 mm, Synchro flange

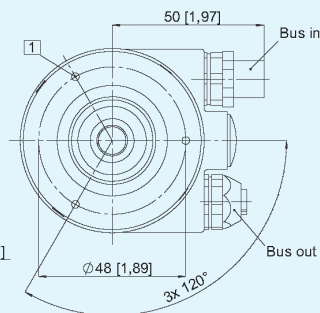
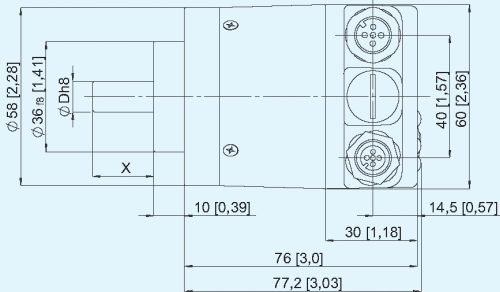
Flange type 2 and 4 (Drawing with cable version)



- 1 3 x M4, 6 [0,24] deep
- 2 Status LED
- 3 SET button

ø 58 mm, Clamping flange

Flange type 1 and 3 (Drawing with 2 x M12 connector)

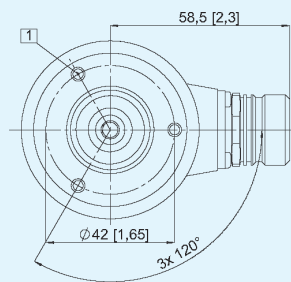
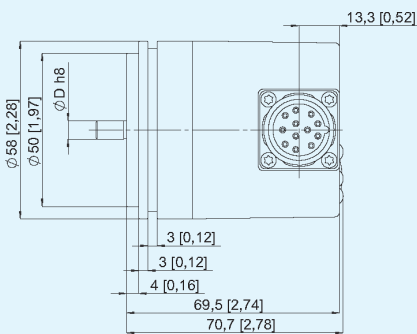


- 1 3 x M3, 6 [0,24] deep

With fixed conection

ø 58 mm, Synchro flange

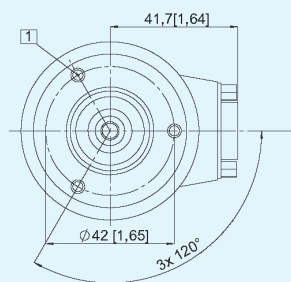
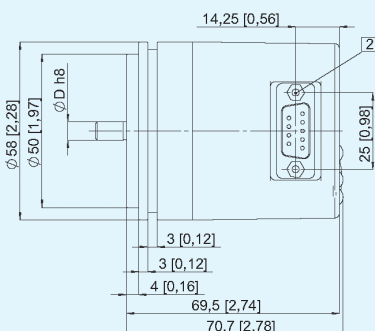
Flange type 2 and 4 (Drawing with M23 connector)



- 1 3 x M4, 6 [0,24] deep

ø 58 mm, Synchro flange

Flange type 2 and 4 (Drawing with D-SUB connector)



- 1 3 x M4, 6 [0,24] deep
- 2 2 x 4/40 UNC; 3,0 [0,12] deep

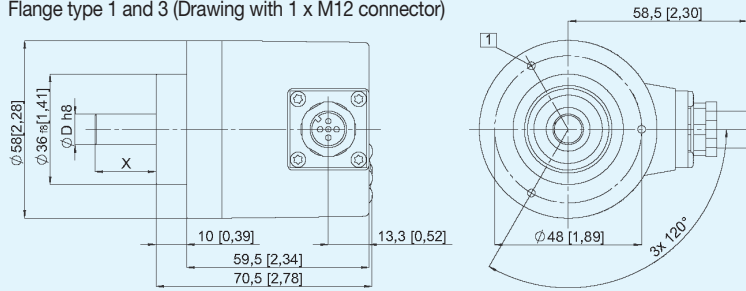


ABSOLUTE ENCODER MyAbs CAN

BAMS 58

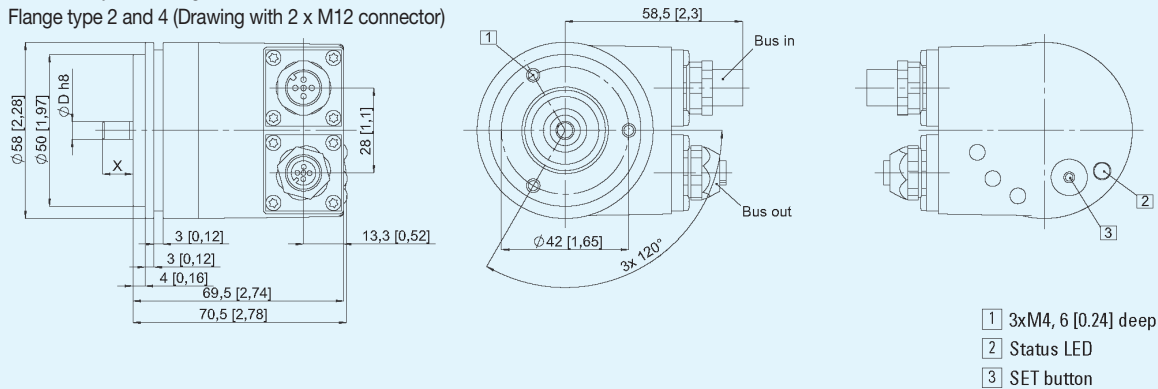
With fixed conection

ø 58 mm, Clamping flange
Flange type 1 and 3 (Drawing with 1 x M12 connector)

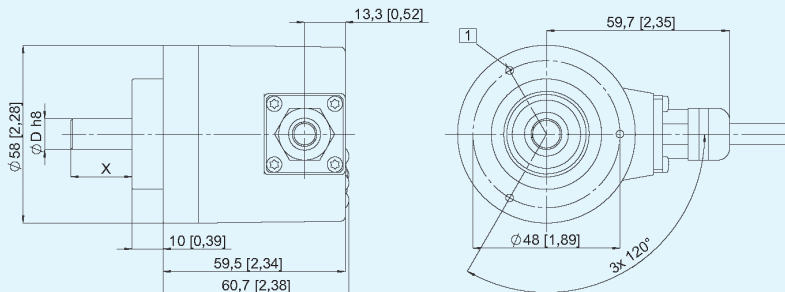


1 3xM3, 6 [0.24] deep

ø 58 mm, Synchro flange
Flange type 2 and 4 (Drawing with 2 x M12 connector)



ø 58 mm, Clamping flange
Flange type 1 and 3 (Drawing with cable version)



1 3xM3, 6 [0.24] deep

Terminal assignment: Bus terminal cover with terminal box (type of connection¹)

Direction:	OUT					IN				
Signal:	CAN Ground	CAN_Low (-)	CAN_High (+)	0 Volt power supply	+UB power supply	0 V power supply	+UB power supply	CAN_Low (-)	CAN_High (+)	CAN Ground
Abbreviation:	CG	CL	CH	0 V	+V	0 V	+V	CL	CH	CG

Terminal assignment: Cable connection (type of connection A) and D-SUB-9 connector (type of connection K)

Direction:	IN				
Signal:	0 V power supply	+UB power supply	CAN_Low (-)	CAN_High (+)	CAN Ground
Abbreviation:	0 V	+V	CL	CH	CG
Cable color:	BK	RD	BL	WH	GY
D-SUB 9:	6	9	2	7	3

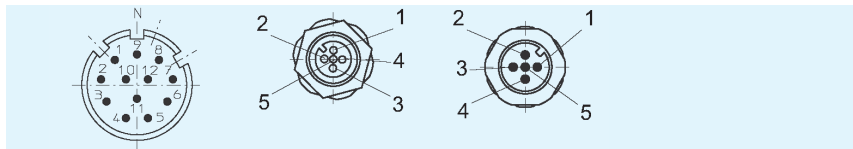
Terminal assignment: Bus terminal cover with 2 x M12 connector (type of connection 2, For J)

Direction:	OUT					IN				
Signal:	CAN Ground	CAN_Low (-)	CAN_High (+)	0 Volt power supply	+UB power supply	0 V power supply	+UB power supply	CAN_Low (-)	CAN_High (+)	CAN Ground
Abbreviation:	CG	CL	CH	0 V	+V	0 V	+V	CL	CH	CG
M23 PIN assignment:	3	2	7	10	12	10	12	2	7	3
M12 PIN assignment:	1	5	4	3	2	3	2	5	4	1

Bus in and auto M23

Bus out:

Bus in:

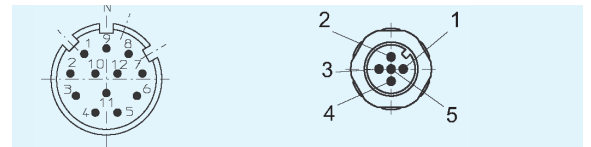


Terminal assignment: M23 (type of connection I) or M12 (type of connection E) connector

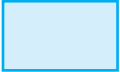





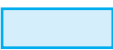
Richtung:	IN				
Signal:	0 V power supply	+UB power supply	CAN_Low (-)	CAN_High (+)	CAN Ground
Abbreviation:	0 V	+V	CL	CH	CG
M23 PIN assignment:	10	12	2	7	3
M12 PIN assignment:	3	2	5	4	1

Bus in M23

Bus in M 12:



ORDERING CODE Multiturn BAMS 58 CAN

 BAMS 58	 Flange	 Shaft Ø	 Interface and supply voltage	 Options	 Bus profile³⁾	 Connection
	1 = Clamping flange ø 58 mm IP 65 2 = Synchro flange ø 58 mm, IP 65 3 = Clamping flange ø 58 mm, IP 67 4 = Synchro flange ø 58 mm, IP 67	1 = Shaft 6 mm x 10 mm (ø x L) 2 = Shaft 10 mm x 20 mm (ø x L) 3 = Shaft 1/4" x 7/8" (ø x L) 4 = Shaft 3/8" x 7/8" (ø x L)	2 = CANopen DS 301 V4.0 10...30 V DC	1 = no option 3 = SET button	21 = CANopen Encoder-Profile DS 406 V3.1 22 = CANlift DS 417 V1.01	11 = With removable bus terminal cover, with radial screwed cable passage 12 = Removable bus terminal cover with 2 x M12 connector A = Fixed connection without bus terminal cover, with radial cable (2 m PVC) E = Fixed connection without bus terminal cover, with 1 x M12 radial connector F = Fixed connection without bus terminal cover, with 2 x M12 radial connector I = Fixed connection without bus terminal cover, with 1 x M23 radial connector J = Fixed connection without bus terminal cover, with 2 x M23 radial connector K = Fixed connection without bus terminal cover, with 1 x D-SUB 9-pin connector

³⁾ CAN parameters can also be factory-preset