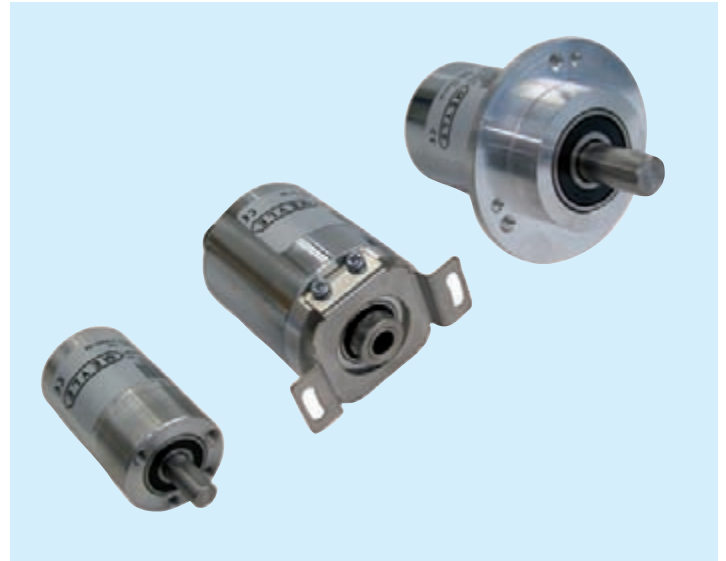


- Absolute magnetic single- and multiturn encoders with SSI, CANopen, RS485, SAEJ1959 outputs *1
- Shaft and hollow shaft versions with 36 mm and 58 mm diameter
- Resistant diecast housing and protection up to IP 67
- Stainless steel shaft
- Single-/multiturn (14 bit/40 bit)
- 2-colour diagnostics LED
- High shaft load up to 220 N radial
120 N axial (shaft encoder)

*1 Profibus on request

- Compact and heavy-duty industrial types
- Shaft Ø 6 or 10 mm
- Blind shaft Ø 6, 8, 10, 12, 14 mm
- Interface:
SSI
CANopen
SAE J 1939
RS485
- no battery, no gear (MT)



Electrical Data:

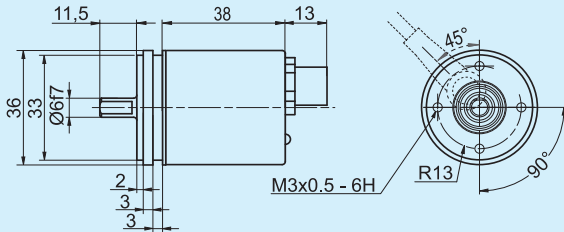
	SSI	CANopen
Supply voltage:	5 V, -5 %/+10 % or 10–30 V	10–30V
Power consumption:	max. 80 mA	max. 50 mA
Singleturn resolution:	14 Bits	14 Bits
Multiturn resolution:	up to 40 bit	up to 40 bits
Interface:	Clock input: via opto-coupler	Protocol: CANopen
	Clock frequency: 100 kHz up to 500 kHz up to 2 MHz on request	- Communication Profile CiA 301 - Device Profile for encoder CiA 406 V3.2 class C2
	Data output: RS485/ RS422 compatible	
	Output code: gray or binary	
	SSI output: Angular-/position value	Node number: 0 up to 127 (default 127)
	Parity bit: optional (even/odd)	Baud rate: 10 kBaud up to 1 MBaud with automatic bit rate detection
	Error bit: optional	
	Turn on time: < 1.5 s	
	Positive direction of counting (View on shaft): DIR = GND → cw DIR = +Ub → ccw	The standard settings as well as any customization in the software can be changed via LSS (CiA 305) and the SDO protocol, e.g. PDOs, Scaling, Heartbeat, Node-ID, Baud rate etc.
	Set to zero: Preset = apply +Ub for 2s	Programmable CAN transmission modes • Synchronous mode: when a synchronisation telegram (SYNC) is received from another bus node, PDOs are transmitted independently • Asynchronous mode: a PDO message is triggered by an internal event, (e.g. change of measured valued, internal timer, etc.)
Connection	Cable or flange connector axial oder radial	connector 5 pin axial or radial

Mechanical Data:

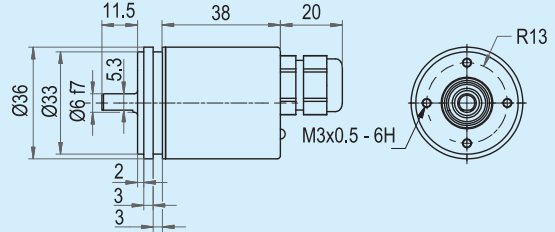
	SSI	CANopen
Housing diameter	37 mm or 58 mm	37 mm or 58 mm
Protection, shaft input	IP 65	IP 65
IP Protection class, housing	IP 67	IP 67
Flange types	Synchro-flange, clamping flange, blind shaft	Synchro-flange, clamping flange, blind shaft
Shaft diameter	Solid shaft 6 mm, 10 mm blind shaft 6, 8, 10, 12, 14 mm	Solid shaft 6 mm, 10 mm blind shaft 6, 8, 10, 12, 14 mm
Max. speed	DAMxx37: 12.000 min ⁻¹ DAMxx58: 8.000 min ⁻¹	DAMxx37: 12.000 min ⁻¹ DAMxx58: 8.000 min ⁻¹
Starting Torque	≤ 1 Ncm	≤ 1 Ncm
Max. Shaftload	DAMxx37: axial 50 N radial 80 N DAMxx58: axial 120 N radial 125/220 N	DAMxx37: axial 50 N radial 80 N DAMxx58: axial 120 N radial 125/220 N
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	50 m/m ² (10 ...2.000 Hz)	50 m/m ² (10 ...2.000 Hz)
Working temperature	-40 ... +80 °C	-40 ... +80 °C
Storage temperature	-40 ... +100 °C	-40 ... +100 °C

Dimensioned drawing

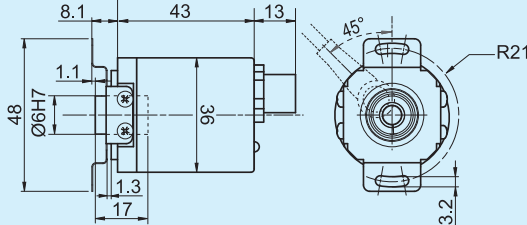
DAMxS37, M 12 connector axial



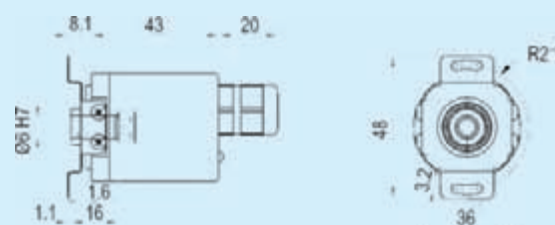
DAMxS37, cable axial



DAMxB37, M 12 connector axial

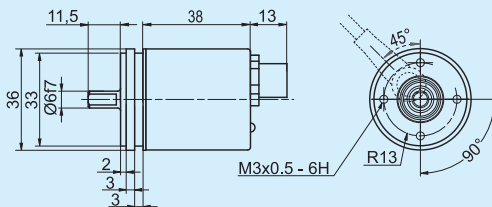


DAMxB37, cable axial



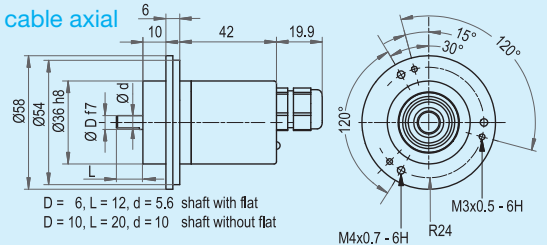
Synchro flange

DAMxS58, M 12 connector axial

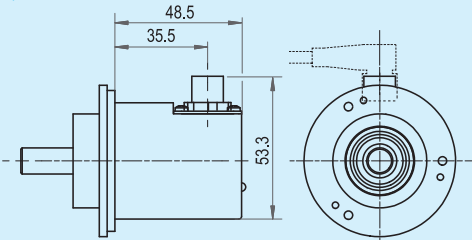


Clamping flange

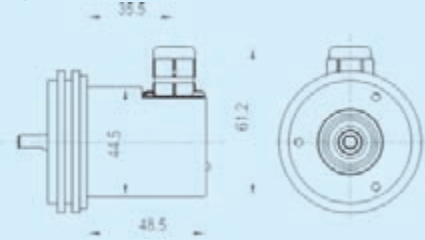
DAMxS58, cable axial



DAMxS58, M 12 connector radial



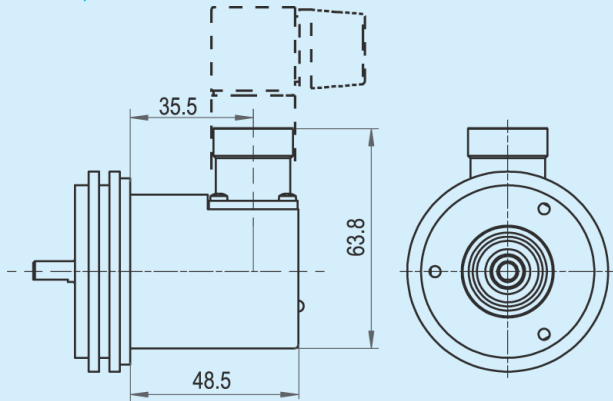
DAMxS58, cable radial



Dimensioned drawing

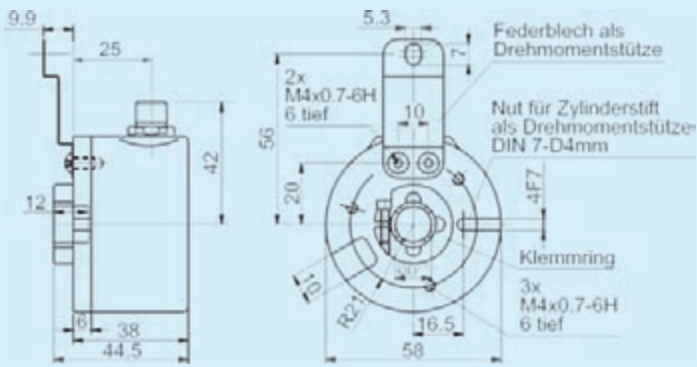
Synchro flange

DAMxS58, M 23 connector radial



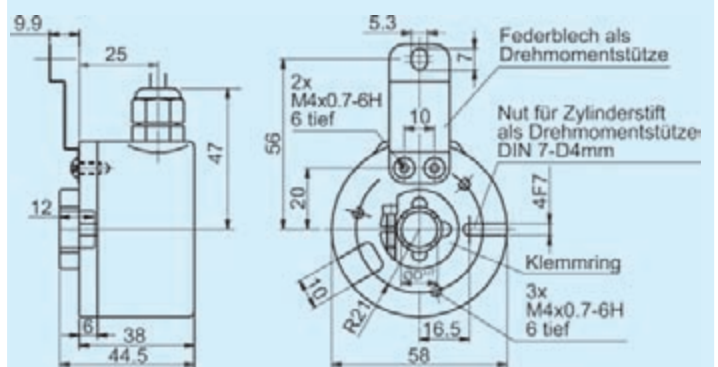
Blind shaft

DAMxB58, M 12 connector radial



Blind shaft

DAMxB58, cable radial



SSI

Terminal assignment

for supply voltage A or E and type of connection A, B or H

Signal:	GND	+V	+C	-C	+D	-D	Preset	DIR	PE
Cable colour:	WH	BN	GN	YE	GY	PK	BU	RD	Shield
M 23 - 12 pin:	12	11	2	1	3	4	9	8	PH

for supply voltage A or E and type of connection 7 or 8

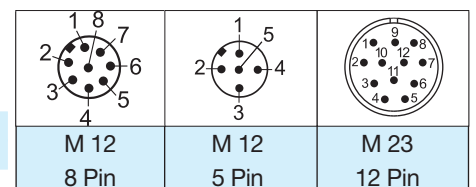
Signal:	GND	+V	+C	-C	+D	-D	Preset	DIR	Shield/PE
M12 - 8 pin:	1	2	3	4	5	6	7	8	PH

- +V: Encoder Power Supply +VDC
- GND: Encoder Power Supply Ground (0 V)
- +C, -C: Clock signal
- +D, -D: Data signal
- Preset: Set to zero if active for 2 sec.
- DIR: Direction input: If this is active, output values are decreasing when shaft is turned clockwise.
- PE: Protective earth
- PH: Plug housing (shield)

CANopen

Terminal assignment

Signal:	CAN Ground	CAN_Low (-)	CAN_High (+)	0 Volt power supply	+UB power supply
M 12 - 5 pin:	1	5	4	3	2



ORDERING CODE SSI

DAMSS37 Absolute singleturn shaft encoder DAMMS37 Absolute multiturn shaft encoder DAMSB37 Absolute singleturn blind shaft encoder DAMMB37 Absolute multiturn blind shaft encoder	Resolution 0010 = 10 Bit ST 0011 = 11 Bit ST 0012 = 12 Bit ST 0013 = 13 Bit ST 0014 = 14 Bit ST 1210 = 12 Bit MT + 10 Bit ST 1211 = 12 Bit MT + 11 Bit ST 1212 = 12 Bit MT + 12 Bit ST 1213 = 12 Bit MT + 13 Bit ST other resolutions on request	Supply voltage A = 5 VDC E = 10–30 VDC	Flange, Protection S7 = Synchro, IP 67 housing, IP 65 shaft	Shaft-Ø 06 = 6 mm shaft/ blind shaft	Interface SB = SSI Binary SG = SSI Gray	Connection A = cable axial, 2 m, IP 65 only 7 = M 12, 8 pol. axial

ORDERING CODE SSI

DAMSS58 Absolute singleturn shaft encoder DAMMS58 Absolute multiturn shaft encoder DAMSB58 Absolute singleturn blind shaft encoder DAMMB58 Absolute multiturn blind shaft encoder	Resolution 0010 = 10 Bit ST 0011 = 11 Bit ST 0012 = 12 Bit ST 0013 = 13 Bit ST 0014 = 14 Bit ST 1210 = 12 Bit MT + 10 Bit ST 1211 = 12 Bit MT + 11 Bit ST 1212 = 12 Bit MT + 12 Bit ST 1213 = 12 Bit MT + 13 Bit ST 1214 = 12 Bit MT + 14 Bit ST other resolutions on request	Supply voltage A = 5 VDC E = 10–30 VDC	Flange, Protection S7 = Synchro, IP 67 housing, IP 65 shaft K7 = Clamping, IP 67 housing, IP 65 shaft H7 = Torque stop, IP 67 housing, IP 65 shaft	Shaft-Ø 06 = 6 mm shaft (S7 only) 08 = 8 mm blind shaft 10 = 10 mm shaft/ blind shaft 12 = 12 mm blind shaft 14 = 14 mm blind shaft	Interface SB = SSI Binary SG = SSI Gray	Connection A = cable axial, 2 m, IP 65 only B = cable radial, 2 m, IP 65 only H = Conin 12 pol. radial ccw 7 = M 12, 8 pol. axial 8 = M 12, 8 pol. radial

ORDERING CODE CANopen

DAMSS37 Absolute singleturn shaft encoder DAMMS37 Absolute multiturn shaft encoder DAMSB37 Absolute singleturn blind shaft encoder DAMMB37 Absolute multiturn blind shaft encoder	Resolution 0012 = 12 Bit ST 1812 = 18 Bit MT + 12 Bit ST 4012 = 40 Bit MT + 12 Bit ST other resolutions on request	Supply voltage E = 10–30 VDC	Flange, Protection S7 = Synchro, IP 67 housing, IP 65 shaft	Shaft-Ø 06 = 6 mm shaft/ blind shaft	Interface CO = CANopen Profile DS406 V 3.2	Connection 11 = M 12, 5 pol. axial

ORDERING CODE CANopen

DAMSS58 Absolute singleturn shaft encoder DAMMS58 Absolute multiturn shaft encoder DAMSB58 Absolute singleturn blind shaft encoder DAMMB58 Absolute multiturn blind shaft encoder	Resolution 0012 = 12 Bit ST 1812 = 18 Bit MT + 12 Bit ST 4012 = 40 Bit MT + 12 Bit ST other resolutions on request	Supply voltage E = 10–30 VDC	Flange, Protection S7 = Synchro, IP 67 housing, IP 65 shaft K7 = Clamping, IP 67 housing, IP 65 shaft H7 = Torque stop, IP 67 housing, IP 65 shaft	Shaft-Ø 06 = 6 mm shaft, (S7 only) 08 = 8 mm blind shaft 10 = 10 mm shaft/ blind shaft 12 = 12 mm blind shaft 14 = 14 mm blind shaft	Interface CO = CANopen Profile DS406 V 3.2	Connection 11 = M 12, 5 pol. axial 12 = M 12, 5 pol. radial