

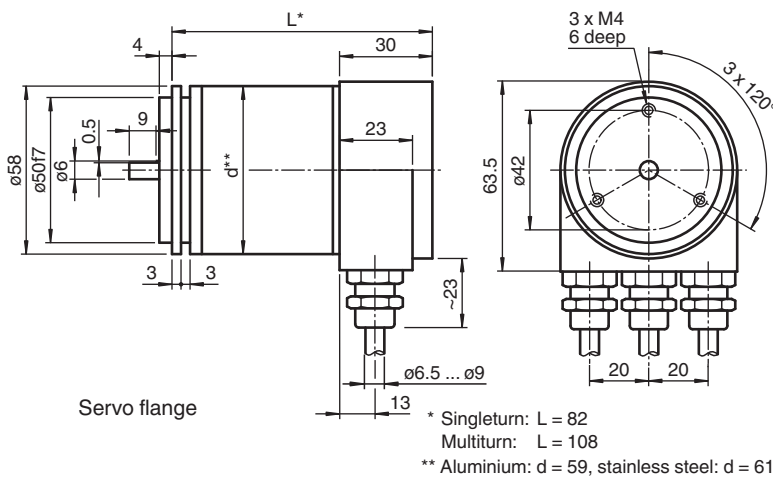
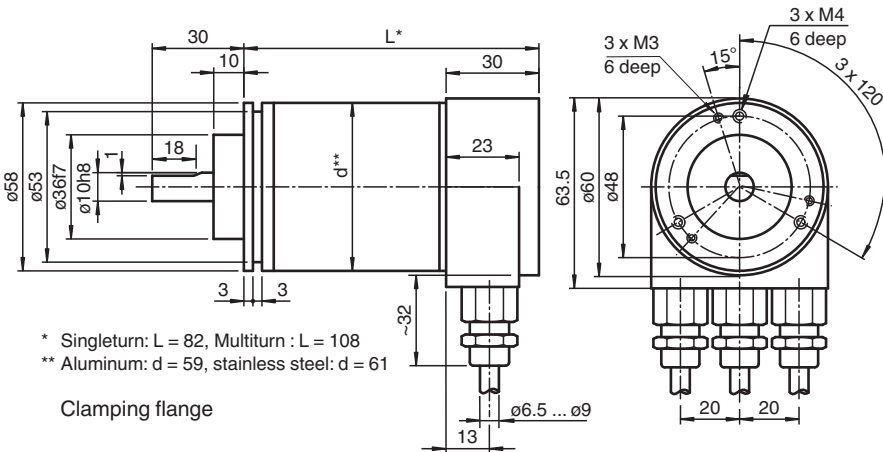


Singleturn absolute encoder CVS58S

- Integrated functional safety with twin processor structure and dual sensing for extra security
- For systems up to SIL3 and PLe
- Industrial standard housing Ø58 mm
- 16 Bit singleturn
- Galvanically isolated CAN interface
- DSP 406/301/304, CLASS 1 and 2
- Servo or clamping flange
- 2 limit switches
- CANopen and CANopen Safety interface



Dimensions



Release date: 2023-02-14 Date of issue: 2023-02-14 Filename: t43491_eng.pdf

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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www.pepperl-fuchs.com

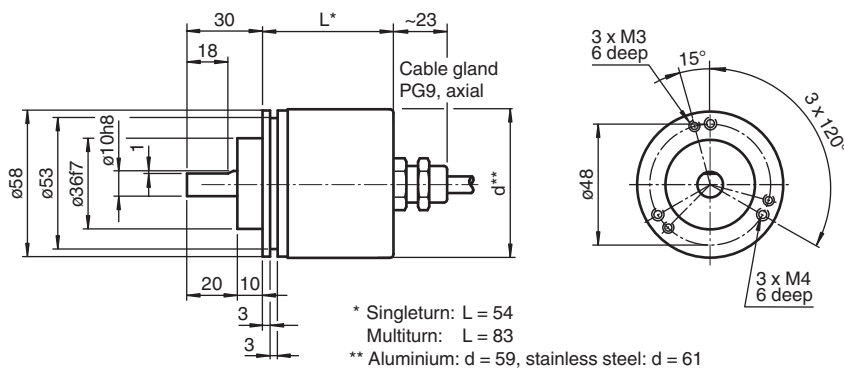
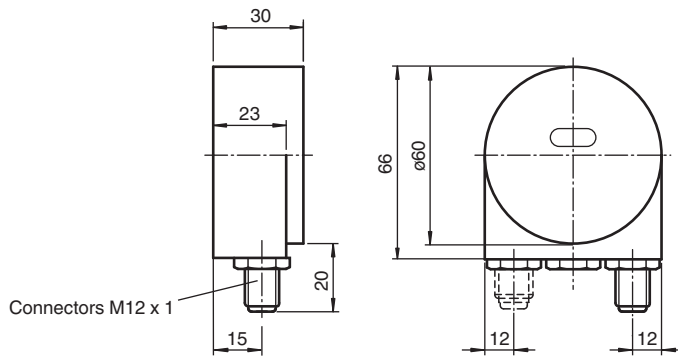
USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

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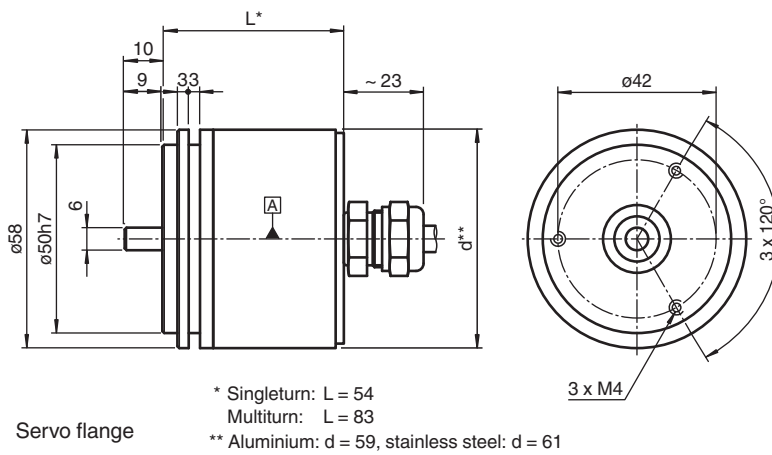
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PF PEPPERL+FUCHS

Dimensions



Clamping flange



Servo flange

Technical Data

General specifications		
Detection type	photoelectric sampling	
Device type	Singleturn absolute encoder	
Electrical specifications		
Operating voltage	U_B	12 ... 30 V DC
No-load supply current	I_0	max. 50 mA
Linearity	Non Safety: ± 4 LSB at 16 Bit, ± 0,5 LSB at 12 Bit Safety Value: 10 bit ± 0 LSB	



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
Technical Data

Output code	binary code
Code course (counting direction)	cw ascending (clockwise rotation, code course ascending) cw descending (clockwise rotation, code course descending)
Interface	
Interface type	CANopen / CANopen Safety
Resolution	
Single turn	CANopen: up to 16 Bit CANopen Safety: 10 Bit
Overall resolution	up to 16 Bit
Transfer rate	max. 1 MBit/s
Standard conformity	DSP 406/301/304, CLASS 1 and 2
Output	
Output type	DSP 406/301/304, CLASS 1 and 2
Connection	
Terminal compartment	in removable housing cover
Standard conformity	
Degree of protection	DIN EN 60529, shaft side: IP64 (without shaft seal)/IP66 (with shaft seal) housing side: IP65
Climatic testing	DIN EN 60068-2-3, no moisture condensation
Emitted interference	EN 61000-6-4:2007
Noise immunity	EN 61000-6-2:2005
Shock resistance	DIN EN 60068-2-27, 100 g, 6 ms
Vibration resistance	DIN EN 60068-2-6, 10 g, 10 ... 2000 Hz
Functional safety	IEC 62061:2005 ISO 13849-1:2006
Approvals and certificates	
UL approval	cULus Listed, General Purpose, Class 2 Power Source
Ambient conditions	
Operating temperature	-30 ... 70 °C (-22 ... 158 °F)
Storage temperature	-30 ... 70 °C (-22 ... 158 °F)
Mechanical specifications	
Material	
Combination 1	housing: powder coated aluminum flange: aluminum shaft: stainless steel
Combination 2 (Inox)	housing: stainless steel flange: stainless steel shaft: stainless steel
Mass	approx. 600 g (combination 1) approx. 1200 g (combination 2)
Rotational speed	max. 12000 min ⁻¹
Moment of inertia	30 gcm ²
Starting torque	≤ 3 Ncm (version without shaft seal)
Shaft load	
Axial	40 N
Radial	110 N

Accessories

	9203	Angled flange
	9310-3	Synchro clamping element

Accessories

	9300	Mounting bracket for servo flange
	KW-10/10	Helical coupling
	KW-6/10	Helical coupling
	KW-6/6	Helical coupling
	KW-6/8	Helical coupling
	9401 10*10	Spring steel coupling
	9401 10*12	Spring steel coupling
	9401 6*10	Spring steel coupling
	9401 6*6	Spring steel coupling
	9402 6*6	Spring steel coupling
	9404 10*10	Spring disk coupling
	9404 6*6	Spring disk coupling
	9409 10*10	Bellows coupling
	9409 6*10	Bellows coupling
	9409 6*6	Bellows coupling
	9409 6*8	Bellows coupling
	9410 10*10	Precision coupling
	9410 6*6	Precision coupling
	MBT-36ALS	Spring-loaded mounting bracket with a diameter of 36 mm

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fa-info@sg.pepperl-fuchs.com **PEPPERL+FUCHS**

Function

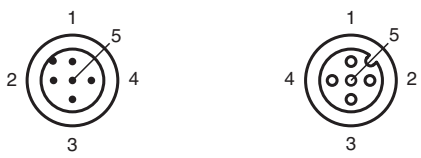
This absolute rotary encoder with Safety CANopen interface fulfills through its mechanical and electrical concept with twin-microcontroller structure and double sampling all safety function requirements of modern functional safe control systems. It is suitable for the use in machines and plants with safety categories up to:

- SIL3 acc. to EN 62061
- PLe acc. to IEC 13849
- Category 4 acc. to IEC 13849

The bus electronics is integrated in the removable housing cover. Due to this the encoder and the bus electronics can be installed or replaced separately in case of maintenance and service. This device is made for shaft mounting and comes with a clamping-flange.

Connection

Electrical connection

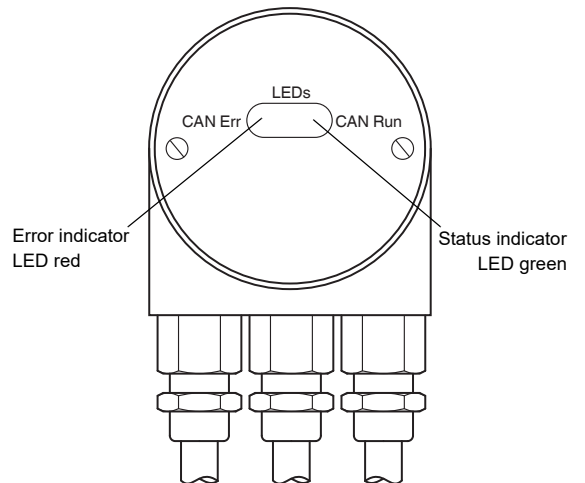
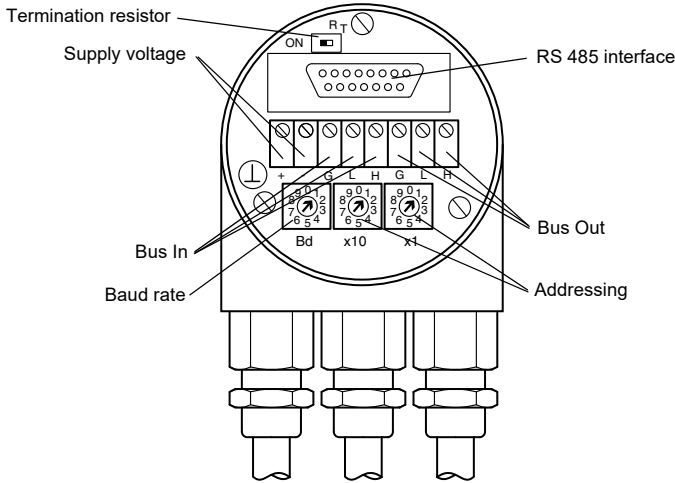
Terminal	Cable	Connector(s)	Explanation
⊥	-	-	Ground connection for power supply
(+)	Red	2	Power supply, +12 ... +30 VDC
(-)	Black	3	Power supply, 0 VDC
CG	-	1	CAN Ground (Bus In)
CL	Blue	5	CAN Low (Bus In)
CH	White	4	CAN High (Bus In)
CG	-	1	CAN Ground (Bus Out)
CL	Blue	5	CAN Low (Bus Out)
CH	White	4	CAN High (Bus Out)
			

Additional Information

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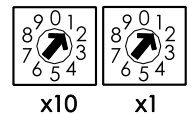
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Indicating and operating elements



Adjusting the participant address

The participant address can be adjusted with the rotary switches. The address can be defined between 1 and 64, and may only be assigned once.



Adjusting the termination resistor

The terminating resistor R_T (121 Ω) can be connected to the circuit by means of the switch:



Baud rate adjustment

Baud rate [kBit/s]	Switch position	Value Object 3001h	Baud rate [kBit/s]	Switch position	Value Object 3001h
20	0	0	500	5	5
50	1	1	800	6	6
100	2	2	1000	7	7
125	3	3	reserved	8	-
250	4	4	reserved	9	-

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LED-Indicators

LED CAN Err (rot)	Status	Meaning
off	No error	Device operates in normal mode.
single flash	Warning limit reached	At least one of the CAN controllers error counter has reached or crossed the warning limit (too many error frames).
double flash	Error event	NMT error monitor event or heartbeat error has happened.
flashing continuously	Invalid configuration	General configuration fault.
on	Bus off	The CAN controller has disconnected from the bus

LED CAN Run (grün)	Status	Meaning
off	Reset	Devive is performing a reset.
single flash	STOPPED	The devices status is STOPPED.
flashing continuously	PRE-OPERATIONAL	The devices status is PRE-OPERATIONAL.
on	OPERATIONAL	The devices status is OPERATIONAL.

Order code

C	V	S	5	8	S	-					0	B	-	0	0		
---	---	---	---	---	---	---	--	--	--	--	---	---	---	---	---	--	--

Number of bits singleturn

13	8192
16	65536

Option 2

- N** Aluminum housing (standard)
- I** Stainless steel housing
- W** Version with shaft seal

Output code

- B** Binary

Option 1

- 0** No option

Exit position

- A** Axial (connection type K1, without bus cover)
- R** Radial

Connection type

- AG** Removable housing cover with terminal compartment
- AN** 1 connector (male), M12 x 1, 5 pin
- AW** 2 connectors (1 male, 1 female), M12 x 1, 5 pin
- K1** cable, 1 m

Shaft dimension/flange version

- 011** Shaft Ø10 mm x 20 mm with clamping flange
- 012** Shaft Ø10 mm x 20 mm with servo flange
- 032** Shaft Ø6 mm x 10 mm with servo flange

Special identification

- S** Functional safety / Safety assessed

Principle of operation

- S** Singleturn

Shaft version

- V** Solid shaft

Data format

- C** CAN bus

Number of bits singleturn

Option 2

Option 1

Exit position

Connection type

Shaft dimension/flange version

Special identification

Principle of operation

Shaft version

Data format

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