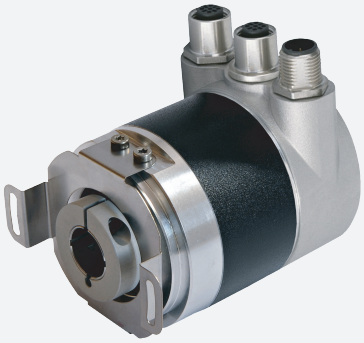


Singleturn absolute encoder

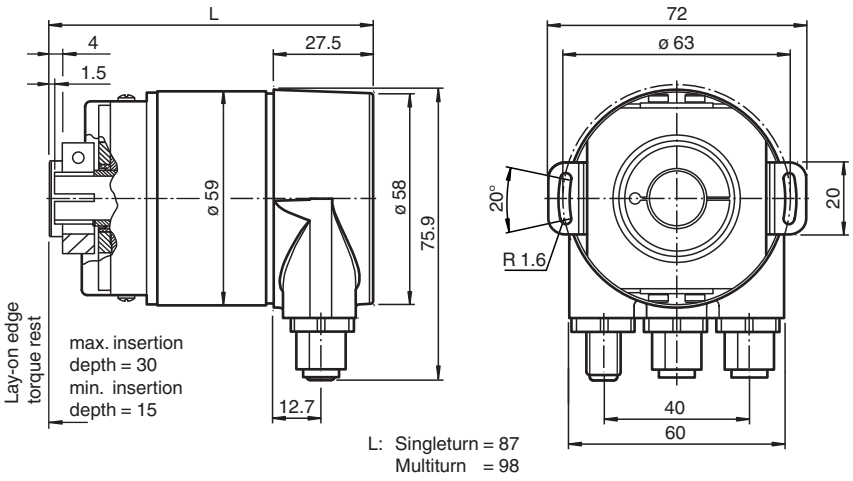
ESS58-IZ

- Industrial standard housing Ø58 mm
- EtherNet/IP
- Up to 30 Bit multiturn
- Servo or clamping flange
- Network loop through by means of integrated 2 port switch
- IP address resettable
- No DIP switches for address setting
- Compatible with Rockwell/ Allen Bradley/ Schneider control
- Mechanical compatibility with all major encoders with fieldbus interface
- Rotary axis functionality
- Status LEDs
- Ethernet IP declaration of conformity
- CIP encoder profile

Function

In addition to the CANopen-, DeviceNet-, PROFIBUS- and AS-Interface encoders, we have broadened our product line of bus-capable absolute encoders with the ESS58 for Ethernet.
Absolute rotary encoders deliver an absolute step value for each angle setting. This device has a maximum basic resolution of 65536 steps per revolution (16 bits).

Dimensions



Technical Data

General specifications		
Detection type		photoelectric sampling
Device type		Singleturn absolute encoder
Functional safety related parameters		
$MTTF_d$		130 a
Mission Time (T_M)		20 a
L_{10h}		1.9 E+11 at 6000 rpm and 20/40 N axial/radial shaft load
Diagnostic Coverage (DC)		0 %
Electrical specifications		

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Technical Data

Operating voltage	U_B	10 ... 30 V DC
Power consumption	P_0	max. 4 W
Linearity		± 0.5 LSB (12 Bit) ,
Output code		binary code
Code course (counting direction)		programmable, cw ascending (clockwise rotation, code course ascending) cw descending (clockwise rotation, code course descending)
Interface		
Interface type		EtherNet/IP
Resolution		
Single turn		up to 16 Bit
Overall resolution		up to 16 Bit
Physical		Ethernet
Transfer rate		100 MBit/s
Connection		
Connector		Ethernet: 2 sockets M12 x 1, 4-pin, D-coded Supply: 1 plug M12 x 1, 4-pin, A-coded
Standard conformity		
Degree of protection		DIN EN 60529, shaft side: IP64 (without shaft seal)/IP66 (with shaft seal) housing side: IP65 Stainless steel version (INOX): completely IP67
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
Approvals and certificates		
UL approval		cULus Listed, General Purpose, Class 2 Power Source
Ambient conditions		
Operating temperature		0 ... 60 °C (32 ... 140 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Material		housing: powder coated aluminum flange: aluminum shaft: stainless steel
Combination 1		housing: powder coated aluminum flange: aluminum shaft: stainless steel
Combination 2 (Inox)		housing: stainless steel 1.4305 / AISI 303 flange: stainless steel 1.4301 / AISI 304 shaft: stainless steel 1.4305 / AISI 303
Mass		approx. 370 g (combination 1) approx. 840 g (combination 2)
Rotational speed		max. 12000 min^{-1}
Moment of inertia		30 gcm^2
Starting torque		≤ 3 Ncm (version without shaft seal)
Tightening torque, fastening screws		max. 1.8 Nm
Shaft load		
Angle offset		± 0.9 °
Axial offset		static: ± 0.3 mm, dynamic: ± 0.1 mm
Radial offset		static: ± 0.5 mm, dynamic: ± 0.2 mm

Accessories

	**ACC-PACK-ABS-_S_58 ø15**	Accessories set for Ø58 absolut rotary encoder with recessed hollow shaft 15 mm

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Accessories

	**ACC-PACK-ABS-_S_58 ø14**	Accessories set for Ø58 absolut rotary encoder with recessed hollow shaft 14 mm
	**ACC-PACK-ABS-_S_58 ø12**	Accessories set for Ø58 absolut rotary encoder with recessed hollow shaft 12 mm
	**ACC-PACK-ABS-_S_58 ø10**	Accessories set for Ø58 absolut rotary encoder with recessed hollow shaft 10 mm

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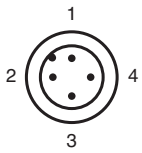
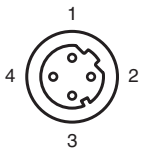
Connection

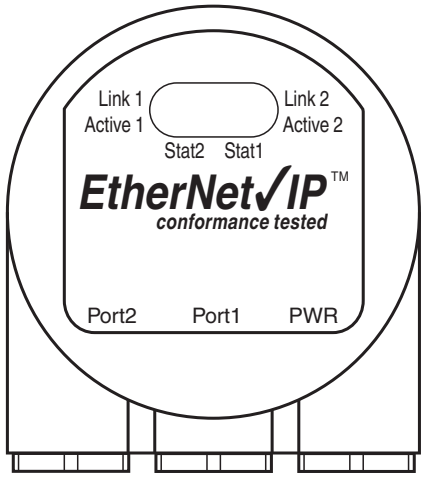
Pin	Male connector M12 x 1, 4-pin, A-coded	Female connector M12 x 1, 4-pin, D-coded
1	Supply voltage +U_B	Tx +
2	-	Rx +
3	0 V	Tx -
4	-	Rx -
		

Indication

Diagnostic LEDs

LED	Color	Description for LED = ON
Active1	Yellow	Incoming and outgoing data traffic for port 1
Link1*	Green	Connection to other Ethernet devices on port 1
Active2	Yellow	Incoming and outgoing data traffic for port 2
Link2*	Green	Connection to other Ethernet devices on port 2
Stat1	Green	Status 1, details see table below
Stat2	Red	Status 2, details see table below

* flashes with 2 Hz if engineering identification call is activated and link connection is available



Stat1 (green)	Stat2 (red) bus failure	Meaning	Cause
off	off	No power	
on	on	No connection to another device Criteria: no data exchange	• bus disconnected • Master not available / switched off
on	flashes [1)]	Parameterization fault, no data exchange Criteria: data exchange correct. However, the slave did not switch to the data exchange mode.	• Slave not configured yet or wrong configuration • Wrong station address assigned (but not outside the permitted range) • Actual configuration of the slave differs from the nominal configuration
on	off	Data exchange. Slave and operation ok.	

1) flashing frequency 0.5 Hz for at least 3 seconds

Type Code

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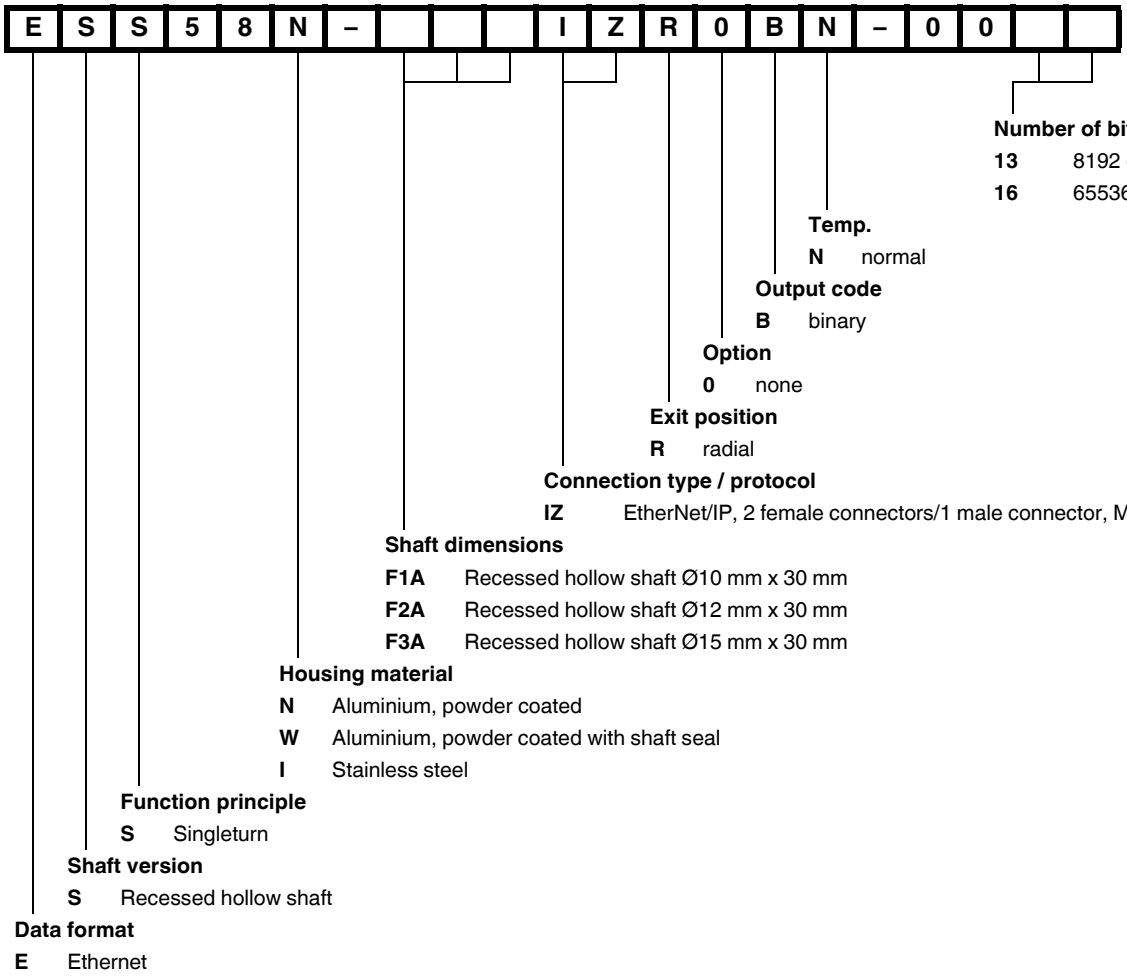

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