YANKEE
Absolute encoder

Single-turn electronic sensor that interfaces rotation elements and returns a signal according to the angular position or the rotation speed up to 800 rpm.

FEATURES

- Used in a variety of industrial sectors, from lifting to automation, to meet any need in terms of registration and identification of modern production machines, wherever controls are needed, regardless of the nature of the mechanic system and of its complexity, and whenever reducing and unifying the system of angular positioning sensors is necessary.
- Designed for easy assembly and wiring in combination with standard sets of cams.
- Measuring accuracy guaranteed by 4095 points per revolution.
- IP protection degree: Yankee is classified IP20.
- Extreme temperature resistance: from -40°C to +85°C.
- High quality materials and components guarantee maximum mechanical life, precision and repeatability even in extreme conditions.

OPTIONS

- Suitable for assembly on Fox, Oscar, Top and GF4C rotary limit switches* to control multi-revolution rotors.
- Every position of the shaft or rotation speed up to 800 rpm is associated with an analog signal in voltage, in current or PWM.
- Multiple functions available on request:
  - CW/CCW direction inversion mode via terminal block;
  - incremental zeroing function based on time, or fixed zero function;
  - zeroing via terminal block;
  - configuration with measurement ranges different from standard values;
  - output proportional to speed, up to a maximum of 800 rpm;
  - configuration of non-linear output behavior across the entire 360° range.

CERTIFICATIONS

- CE marking and cULus marking.

* Attention: Yankee can be mounted only with PRSL0110/111XX switches (on cam sets with up to 4 switches for Fox rotary limit switches, with 2, 3 and 4 switches for Oscar and Top, with 5 and 6 switches for Oscar XL and Top XL and 2 switches for GF4C).

CERTIFICATIONS

Conformity to Community Directives	2014/30/UE Electromagnetic Compatibility (EMC) Directive
	2006/42/CE Machinery Directive
	2014/35/UE Low Voltage Directive (LVD)
Conformity to CE Standards	EN 61326-1 Electrical equipment for measurement, control and laboratory use - EMC requirements
	EN 60529 Degrees of protection provided by enclosures
Conformity to cULus Standards	CSA-C22.2 No 14-13 Industrial Control Equipment
	UL 508 Industrial Control Equipment
Markings and homologations	CE cULus

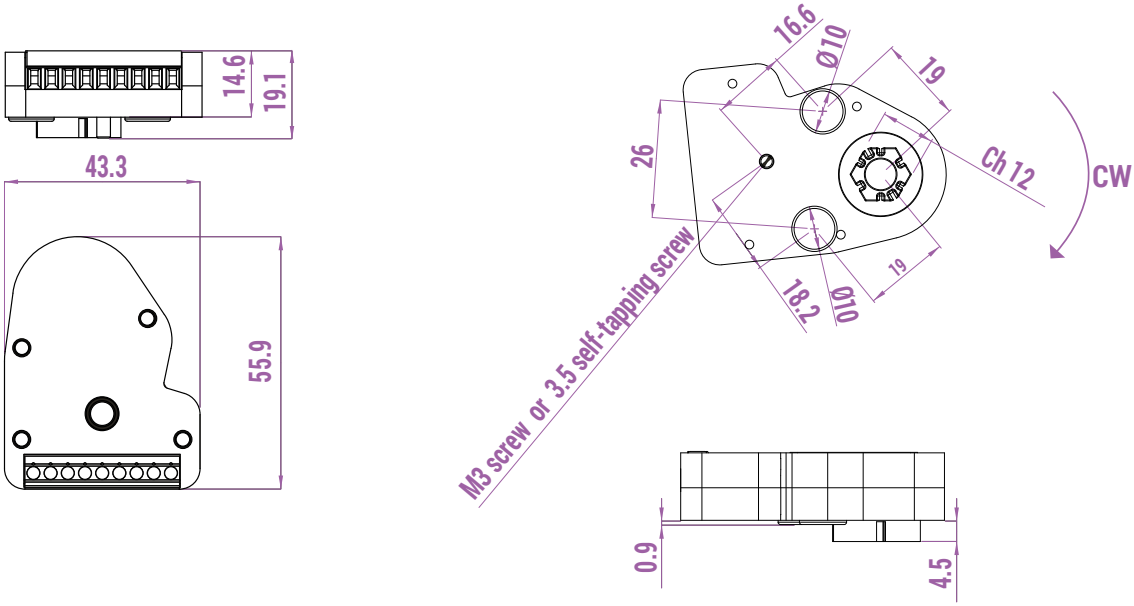
GENERAL TECHNICAL SPECIFICATIONS

Ambient temperature	Storage -40°C/+85°C
	Operational -40°C/+85°C
IP protection degree	IP 20
Free rotation	360°
Max. rotation speed	800 rpm

ELECTRICAL SPECIFICATIONS

Output	Current 0 ÷ 20 mA @ load resistance <= 500 Ω
	Voltage 0 ÷ 10 V @ load resistance > 500 kΩ
	PWM 0 ÷ 100% @ load resistance > 500 kΩ - Frequency 325 Hz
Measure type	Position (0° ÷ 360°)
	Speed (0 ÷ 800 rpm)
Power supply	12 ÷ 48 Vdc / 12 ÷ 48 Vac
Protection against reverse polarity	Yes
Consumption	35 mA
Resolution	12 bit (4095 points per revolution)
Linearity	+/- 0.25%
Max. hysteresis	0.1°
Zero Point setting	Through clamp
Signal increment direction	CW (default)
Connections	Terminal board
Terminal wires	0.14 mm² - 1.5 mm²
Terminal tightening torque	0.22 Nm - 0.25 Nm

OVERALL DIMENSIONS (mm)



OPTIONAL FUNCTIONS*

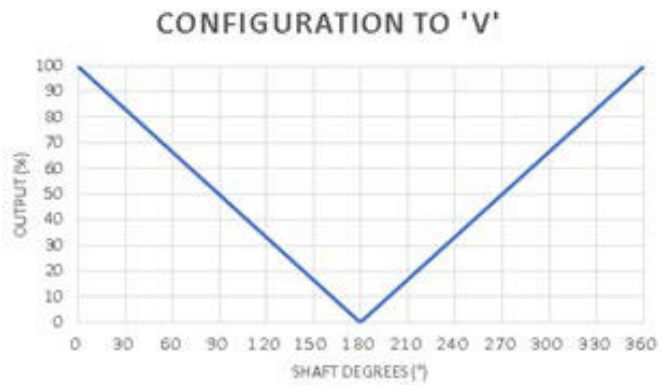
Yankee is a highly configurable device in terms of output and operating modes.

The following functions and additional customizable features are available on request:

- **CW/CCW direction inversion mode** via terminal block, accessible to the user.
- **Incremental zeroing function** based on time, **or fixed zero function.**
  The first option is useful when, for various reasons, the user needs to shift by a certain value from the point where the reset is initiated. The second is required when the zero point must correspond exactly to a defined position.

  In both cases, fixed zeroing occurs within the first 2 seconds after the reset command is given via terminal. In the case of incremental zeroing, if the command lasts longer than 2 seconds, it becomes a PRESET command. The output then increases by 0.32 mA / 200 mV / 2% per second respectively, depending on the configuration in current (I), voltage (V), or PWM. The maximum PRESET values are 12 mA / 5 V / 50%.
- **Zeroing via terminal block** also available with values different from the minimum (e.g. 12 mA in the 4..20 mA range, corresponding to 50% of the range).
  Normally, the fixed zero function corresponds to the minimum value of the configured range (e.g. 4 mA in the 4..20 mA range).
- Configuration with **measurement ranges different from standard values**. For example, the current output can be set to the 3..18 mA range, or voltage output to the 2..9 V range.
- **Output proportional to speed**, up to a maximum of 800 rpm.
  Normally, Yankee provides an output proportional to the absolute position of the monitored shaft.
- Configuration of **polyline output behavior** across the entire 360° range, up to 5 interpolation points.

  In the standard configuration, Yankee provides an output proportional to shaft position. From minimum to maximum, the output increases monotonically. In some cases, however, a different behavior is needed.
  One typical — though not exclusive — application is the so-called "V-shaped" output. In this setup, the maximum output corresponds to the minimum value of the measurement range, the minimum output is set at 50% of the range, and the maximum output is again set at the maximum value of the range. Within each segment, the output behaves proportionally.



* Optional functions are available on request.

STANDARD ENCODERS

Description	Code
Yankee with current output and incremental zeroing	PA01AA01Y3
Yankee with voltage output and incremental zeroing	PA01AB01Y3
Yankee with PWM output	PA01AC01Y3
Yankee with current output, featuring ramp reversal via external command and incremental zeroing	PA01AA02Y3
Yankee with current output and reverse ramp, incremental zeroing	PA01AA03Y3
Yankee with voltage output, featuring ramp reversal via external command and incremental zeroing	PA01AB02Y3
Yankee with voltage output, reverse ramp and fixed zero	PA01AB04Y3

BASE EVO
Electronic limit switch

Compact electronic rotary limit switch, equipped with 4 electronic cams. It is used in a variety of industrial sectors, from automation to industrial handling machines, from intralogistics to stage technologies.

FEATURES

- Base EVO is an electronic limit switch with 4 relays emulating up to 4 cams, with 6 possible configurations (on-off, on-off, on-off) for each electronic cam (totalling 24 settings per limit switch).
- Maximum precision and extremely low hysteresis.
- Single turn measuring resolution guaranteed by 4096 points per revolution (12 bit) with accuracy ± 0,5%.
- Allowing to work without PLC or dedicated programming software.
- IP protection degree: Base EVO is classified IP 65 / IP 66 / IP 67 / IP 69K.
- Extreme temperature resistance: da -25°C a +85°C.
- No need for maintenance and maximum reduction of installation time.
- Possibility of reducing stock and purchase product codes.
- Featuring technopolymer housing and non-magnetic stainless steel AISI 303 shaft.
- High quality materials and components guarantee maximum durability, precision, repeatability even in extreme conditions and great stability against vibrations.

OPTIONS

- It is completely compatible and can be integrated into systems using Base rotary limit switches.
- Available with revolution ratios 1:15, 1:20, 1:25, 1:50, 1:75, 1:100 , 1:150.
- Equipped with 4 relays 24/250 Vac, 3/5A, NC or NO.
- Safety line capable of signalling possible “faults” to the system in case of damage (optional function).
- Available with ready-to-use configuration or with the possibility of on-site configuration by the customer.
- Dedicated cable gland.
- Available with anti-moisture plug fitted to the base by means of a lock nut, improving transpiration while maintaining protection against water.
- Available with flanges, pinion gears and couplings.
- Plates with universal adapters for replacing existing systems.

CERTIFICATIONS

- CE marking.

Fill in the “request form” for accurate product configuration.

Base EVO

Internal view

CERTIFICATIONS

Conformity to Community Directives	2014/30/UE Electromagnetic Compatibility (EMC) Directive
	2006/42/CE Machinery Directive
	2014/35/UE Low Voltage Directive (LVD)
Conformity to CE Standards	EN 60204-1 Safety of machinery - Electrical equipment of machines
	EN 60204-32 Safety of machinery - Electrical equipment of machines - Requirements for hoisting machines
	EN 60947-1 Low-voltage switchgear and controlgear
	EN 60947-5-1 Low-voltage switchgear and controlgear - Control circuit devices and switching elements - Electromechanical control circuit devices
	EN 60529 Degrees of protection provided by enclosures
	EN 61326-1 Electrical equipment for measurement, control and laboratory use - EMC requirements - General requirements
	EN 61326-2-3 Electrical equipment for measurement, control and laboratory use - EMC requirements - Particular requirements - Test configurations, operational conditions and performance criteria for transducers with integrated or remote signal conditioning
Markings and homologations	CE

GENERAL TECHNICAL SPECIFICATIONS

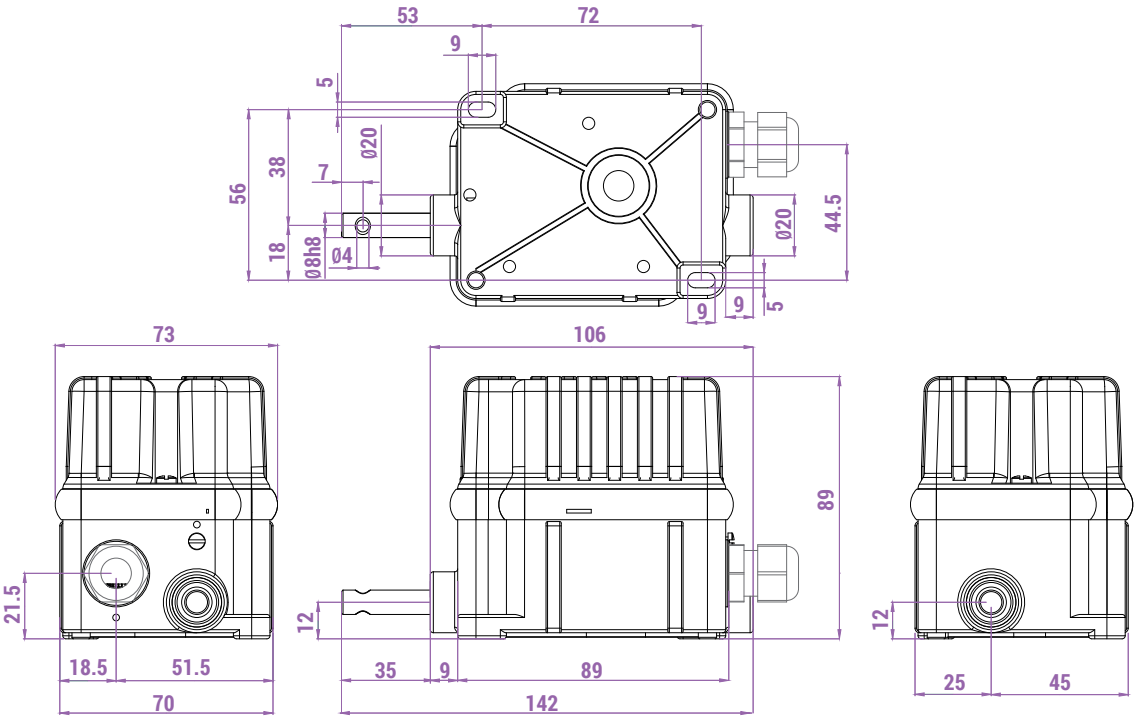
Ambient temperature	Storage -25°C/+85°C
	Operational -25°C/+85°C
IP protection degree	IP 65 / IP 66 / IP 67 / IP 69K
Insulation category	Class II
Rotation speed	Max. 800 rpm
Cable entry	Cable gland M16

ELECTRICAL SPECIFICATIONS

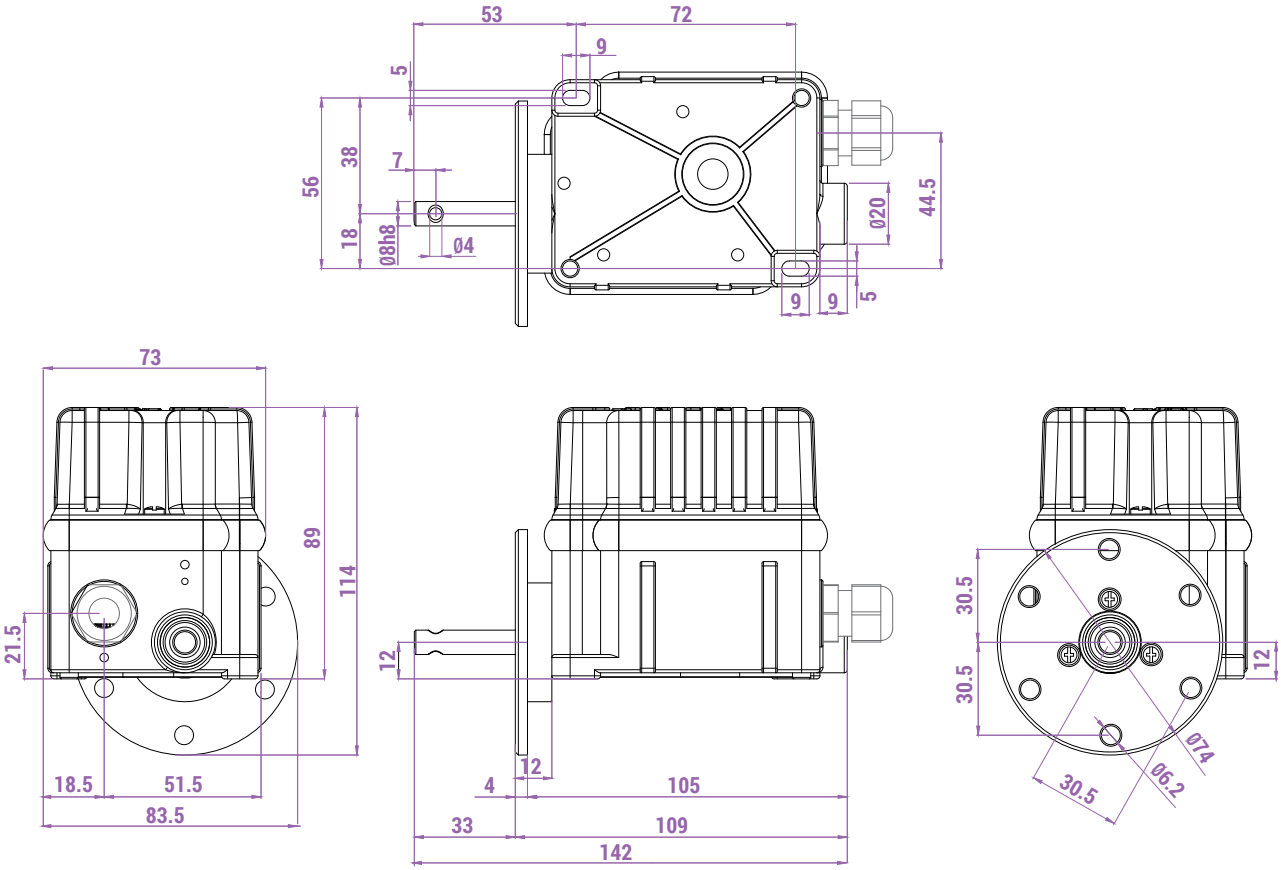
Power supply	24 Vdc ±15%
	48 Vdc ±15%
Consumption	80 mA max
Single-turn resolution	12 bit (4096 points per revolution), for internal process use
Accuracy	± 0.5%
Linearity	± 0.25%
Reverse polarity and short-circuit protection	Yes
Relays	2 or 4 relays 24/250 Vac, 3/5 A, NC or NO

OVERALL DIMENSIONS (mm)

Base EVO



Base EVO with flange



BASE EVO - REQUEST FORM FOR ELECTRONIC LIMIT SWITCH

Instructions

1. **Power supply**: tick the box corresponding to power supply required.
2. **Number of electronic cams**: tick the box corresponding to the number of electronic cams required.
3. **Number of positions**: tick the box corresponding to the maximum number of positions required for the electronic cams.
4. **Version**: tick the box corresponding to the version required.
5. **Anti-moisture plug**: tick when the anti-moisture plug is required.
6. **Cover holding wire:** tick when the wire holding the cover is required.
7. **Revolution ratio**: tick the box corresponding to the revolution ratio required.
8. **Shaft**: tick the box corresponding to the shaft required.
   Customized shafts are available on request.
9. **Coupling, flange, pinion gear**: tick the appropriate box when coupling, flange or pinion gear are required.
   When a standard pinion gear is required, write the code number listed in the pinion gear tables in the next pages.
   When a special pinion gear is required, write the number of teeth, the module and the primitive diameter.

Power supply 1

- ☐ 24 Vdc
- ☐ 48 Vdc

Number of electronic cams 2

- ☐ 2 cams
- ☐ 4 cams

Number of positions 3

- ☐ 2 positions
- ☐ 4 positions
- ☐ 6 positions

Version 4

- ☐ Standard
- ☐ Safety

Anti-moisture plug 5

☐

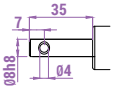
Cover holding wire 6

☐

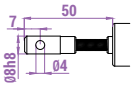
Revolution ratio 7

- ☐ 1:15
- ☐ 1:20
- ☐ 1:25
- ☐ 1:50
- ☐ 1:75
- ☐ 1:100
- ☐ 1:150

☐ Standard shaft 8



☐ Flexible shaft



- ☐ **Male coupling** 9
- ☐ **Female coupling**
- ☐ **Coupling**
- ☐ **12 mm high flange**
- ☐ **22 mm high flange**
- ☐ **Pinion gear**

Pinion gear code _____

Customized pinion gear

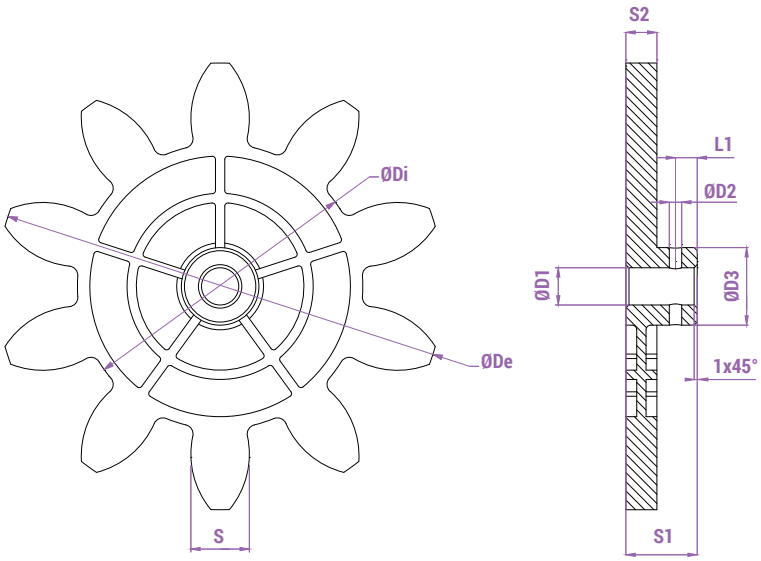
No. of teeth _____

Module _____

Primitive diameter _____

Remarks

Moulded pinion gears 9

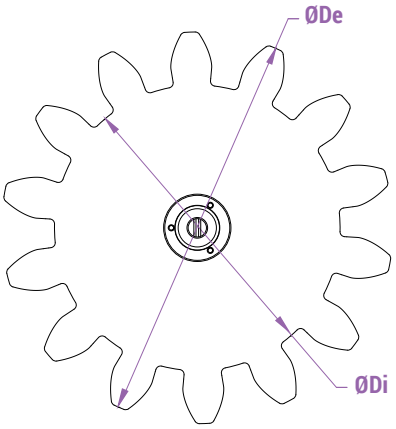


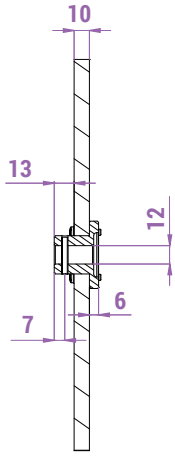
Legend	
Z	Number of teeth
M	Module
Dp	Primitive diameter
De	External diameter
Di	Internal diameter
a	Addendum
d	Dedendum
Alpha	Pressure angle

Code	Z	M	Dp	De	Di	a	d	S	Alpha	D1	D2	D3	S1	S2	L1
PRSL0971PI	8	2.50	20.00	25.00	14.15	2.50	2.93	3.93	20.00	8.00	2.50	14.00	18.00	8.00	4.00
PRSL0915PI	8	20.00	160.00	200.00	113.20	20.00	23.40	31.41	20.00	12.00	4.00	24.00	23.00	10.00	7.00
PRSL0964PI	9	2.50	22.50	27.50	16.25	2.50	3.13	3.93	20.00	8.00	2.50	13.50	18.00	8.00	4.00
PRSL0963PI	9	3.50	31.50	38.50	23.40	3.50	4.10	4.71	20.00	8.00	2.50	14.00	18.00	8.00	4.00
PRSL0892PI	9	5.00	45.00	56.00	36.00	5.50	4.50	9.19	20.00	8.00	2.50	16.00	18.00	8.00	4.00
PRSL0968PI	10	3.00	30.00	36.00	23.00	3.00	3.51	4.71	20.00	8.00	2.50	14.00	18.00	8.00	4.00
PRSL0912PI	10	12.00	120.00	144.00	92.00	12.00	14.00	18.85	20.00	12.00	4.00	25.00	23.00	10.00	7.00
PRSL0913PI	10	14.00	140.00	168.00	107.24	14.00	16.38	21.99	20.00	12.00	4.00	24.60	23.00	10.00	7.00
PRSL0914PI	10	16.00	160.00	192.00	122.67	16.00	18.67	25.13	20.00	12.00	4.00	24.00	23.00	10.00	7.00
PRSL0917PI	11	6.00	66.00	78.00	51.96	6.00	7.02	9.42	20.00	12.00	4.00	19.00	23.00	8.00	7.00
PRSL0916PI	12	5.00	60.00	70.00	48.30	5.00	5.83	7.85	20.00	12.00	4.00	20.00	23.00	8.00	7.00
PRSL0918PI	12	8.00	96.00	112.00	77.28	8.00	9.36	12.56	20.00	12.00	3.90	21.50	23.50	10.00	7.00
PRSL0911PI	12	10.00	120.00	140.00	96.67	10.00	11.67	15.71	20.00	12.00	4.00	25.00	23.50	10.00	7.00
PRSL0944PI	12	12.00	144.00	168.00	116.00	12.00	14.00	18.85	20.00	12.00	4.00	24.00	23.00	10.00	7.00

Measuring unit: mm.

Waterjet cut pinion gears 9





Legend	
Z	Number of teeth
M	Module
Dp	Primitive diameter
De	External diameter
Di	Internal diameter
a	Addendum
d	Dedendum
Alpha	Pressure angle

Code	Z	M	Dp	De	Di	a	d	Alpha
PRSL0857PI	8	18.00	144.00	180.00	102.00	18.00	21.00	20.00
PRSL0855PI	8	24.00	192.00	240.00	136.00	24.00	28.00	20.00
PRSL0992PI	9	10.00	90.00	110.00	66.67	10.00	11.67	20.00
PRSL0879PI	9	16.00	144.00	176.00	106.67	16.00	18.67	20.00
PRSL0854PI	9	18.00	162.00	198.00	120.00	18.00	21.00	20.00
PRSL0871PI	9	20.00	180.00	220.00	133.33	20.00	23.33	20.00
PRSL0849PI	9	24.00	216.00	264.00	160.00	24.00	28.00	20.00
PRSL0846PI	10	10.00	100.00	120.00	76.67	10.00	11.67	20.00
PRSL0993PI	10	18.00	180.00	216.00	138.00	18.00	21.00	20.00
PRSL0970PI	10	22.00	220.00	264.00	168.52	22.00	25.74	20.00
PRSL0856PI	10	24.00	240.00	288.00	18..00	24.00	28.00	20.00
PRSL0861PI	11	12.00	132.00	156.00	104.00	12.00	14.00	20.00
PRSL0998PI	11	18.00	198.00	234.00	156.00	18.00	21.00	20.00
PRSL0997PI	11	20.00	220.00	260.00	173.36	20.00	23.32	20.00
PRSL0859PI	11	24.00	264.00	312.00	204.00	24.00	30.00	20.00
PRSL0863PI	12	14.00	168.00	196.00	133.00	14.00	17.50	20.00
PRSL0897PI	12	16.00	192.00	224.00	154.67	16.00	18.67	20.00
PRSL0972PI	12	18.00	216.00	252.00	173.88	18.00	21.06	20.00
PRSL0845PI	12	20.00	240.00	280.00	193.34	20.00	23.32	20.00
PRSL0878PI	12	24.00	288.00	336.00	232.00	24.00	28.00	20.00
PRSL0860PI	13	6.00	78.00	90.00	63.00	6.00	7.50	20.00
PRSL0853PI	13	12.00	156.00	178.59	126.00	11.29	15.00	20.00
PRSL0898PI	13	16.00	208.00	240.00	170.67	16.00	18.66	20.00
PRSL0862PI	14	10.00	140.00	169.00	125.00	15.00	7.50	20.00
PRSL0896PI	14	16.00	224.00	256.00	186.67	16.00	18.67	20.00
PRSL0999PI	14	18.00	252.00	288.00	210.00	18.00	21.00	20.00
PRSL0848PI	14	20.00	280.00	320.00	233.33	20.00	23.33	20.00
PRSL0858PI	15	18.00	270.00	306.00	228.00	18.00	21.00	20.00
PRSL0847PI	16	20.00	320.00	360.00	273.33	20.00	23.33	20.00
PRSL0973PI	17	10.00	170.00	190.00	145.00	10.00	12.50	22.89
PRSL0974PI	17	14.00	238.00	266.00	203.00	14.00	17.50	22.89
PRSL0851PI	20	6.00	120.00	132.00	105.00	6.00	7.50	22.89

Measuring unit: mm.

ATLANTE
Electronic limit switch

Sturdy electronic multi-turn magnetic absolute encoder that interfaces rotating elements and returns a signal according to the angular position.

FEATURES

- Used in a variety of industrial sectors, from lifting to automation, to record absolute positions regardless of the system mechanics and of its complexity.
- Featuring integrated SSI interface.
- Designed for easy wiring.
- Accuracy guaranteed by 1024 points per revolution.
- IP protection degree: Atlante is classified IP 65 / IP 67 / IP 69K.
- Extreme temperature resistance: from -25°C to +80°C.
- High quality materials and components guarantee maximum mechanical life, precision and repeatability even in extreme conditions.

OPTIONS

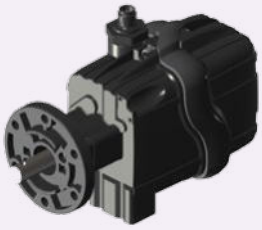
- Equipped with flange or, on request, with pinion gear and flange mounted on the side.

CERTIFICATIONS

- CE marking.
- Complying with accident prevention regulation BGV C 1 (only for Germany).

INTERNAL VIEW AND POSSIBLE ASSEMBLIES

Standard Atlante



Atlante with lateral flange

CERTIFICATIONS

Conformity to Community Directives	2014/30/UE Electromagnetic Compatibility (EMC) Directive
	2006/42/CE Machinery Directive
	2014/35/UE Low Voltage Directive (LVD)
Conformity to CE Standards	EN 61326-1 Electrical equipment for measurement, control and laboratory use - EMC requirements
	EN 60529 Degrees of protection provided by enclosures
BGV C 1	Regulations for the prevention of accidents BGV C 1 (only for Germany)
Markings and homologations	CE

GENERAL TECHNICAL SPECIFICATIONS

Ambient temperature	Storage -25°C/+80°C
	Operational -25°C/+80°C
IP protection degree	IP 65 / IP 67 / IP 69K
Insulation category	Class II
Maximum rotation speed	6000 rpm
Connections	Male connector M12 8 PIN

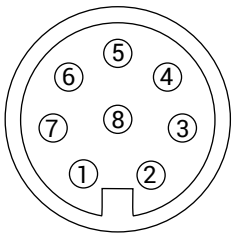
ELECTRICAL SPECIFICATIONS

Power supply	4.5 ... 30 Vdc
Consumption without load	Typ. 80 mA (5 Vdc)
Initializing time	Typ. 170 ms after power on
Interface	SSI
Points per revolution	1024 / 10 bit
Number of revolutions	≤ 4096 / 12 bit
Accuracy	± 0.5%
Code	Binary
Code sequence	CW default, programmable
Inputs	SSI clock: Line receiver RS422 - Zero setting input, direction input
Output stage	SSI data driver for RS422
SSI clock frequency	Max. 2 MHz
Zero setting	High-impulse duration: ≥ 100 ms

MALE CONNECTOR SPECIFICATIONS

Number of PINs	8
Insulation resistance	≥100 MΩ
Maximum voltage	0.8 kV
Wires	24 - 20 AWG
Contacts	CuZn
Mating	Female connectors, 8 PIN, M12, A-coded (Phoenix Contact 1513347)

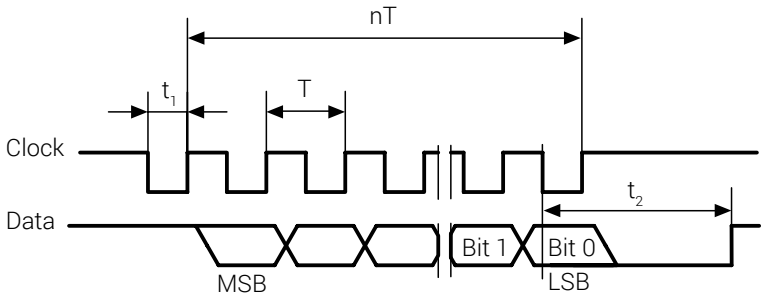
MALE CONNECTOR ASSIGNMENT



Male connector
(rear view)

Pin	Signal	Description
1	+Vs	Supply voltage
2	DIR	Input direction
3	Data+	Data signal
4	Data-	Data signal
5	Clock-	Clock signal
6	Clock+	Clock signal
7	SET	Zero setting
8	0 V	Supply voltage

SSI SIGNAL OUTPUT



T = 0.5...10 µs

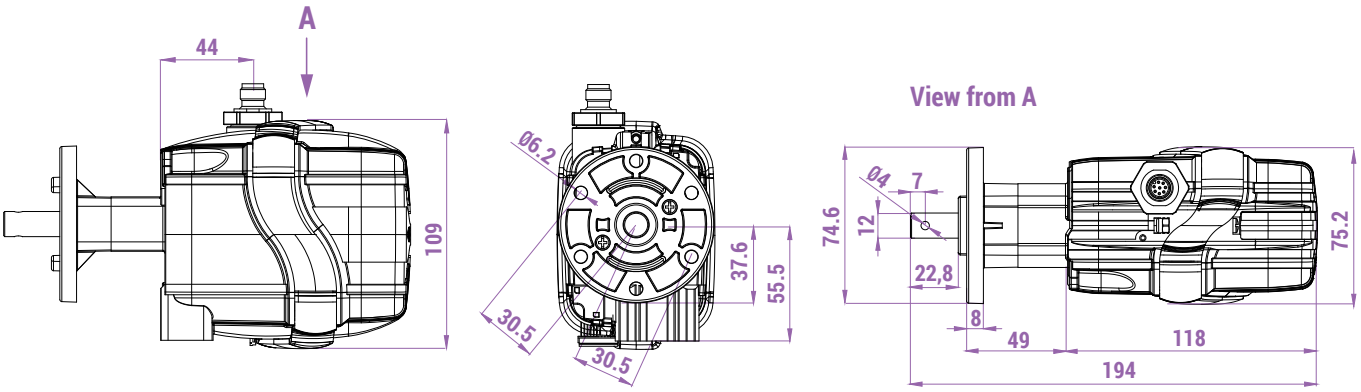
$t_2 \leq 20 \pm 2$ µs

t_1 = 0.25...5 µs

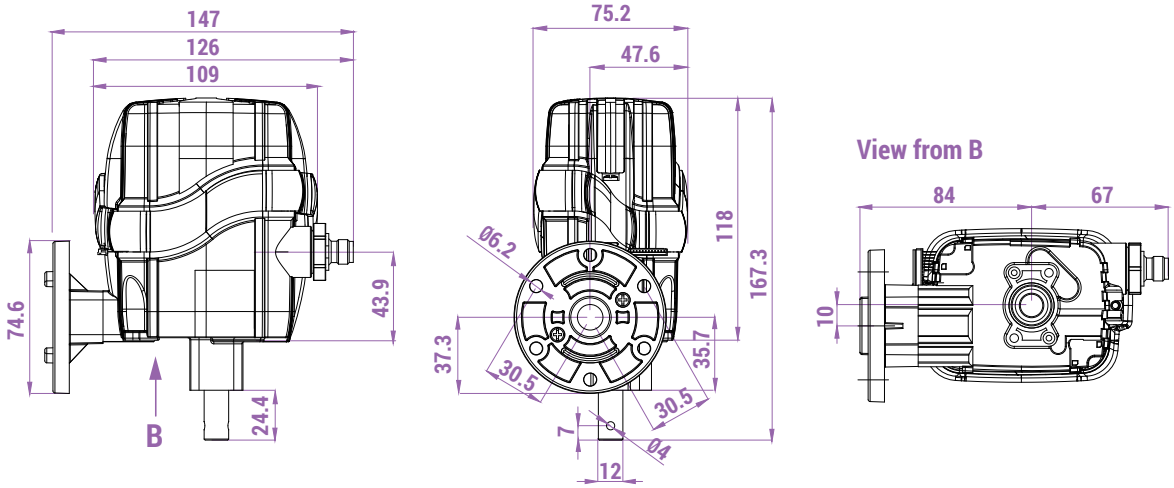
f max. = 2 MHz

OVERALL DIMENSIONS (mm)

Standard Atlante



Atlante with lateral flange

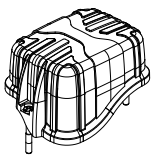
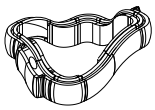


ASSEMBLY DRAWING

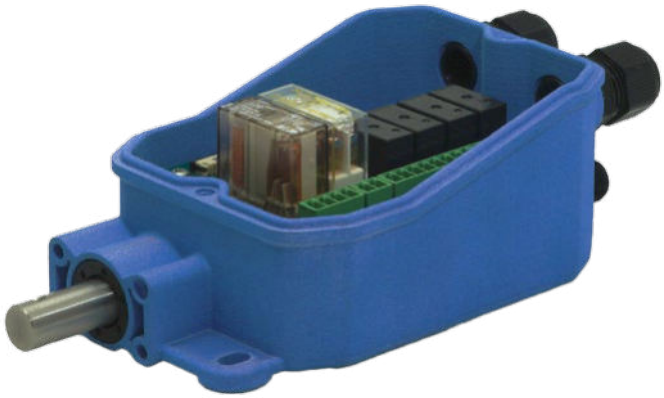
Refer to the following table for description of components: “Accessories”.

COMPONENTS

Accessories

Ref.	Drawing	Description	Code
A1		Cover with screws	PA090017
A2		Tightening rubber	PRGU1500PE
A3		Female connector (not included, available on demand)	PRVV9505PE

ATLANTE EVO
Electronic limit switch



Compact electronic limit switch, equipped with 6 relays emulating up to 6 cams. It is used in a variety of industrial sectors, from automation to industrial handling machines and intralogistics.

FEATURES

- Atlante Evo is a high resolution multi-turn absolute magnetic encoder (28 bit overall resolution), equipped with 6 relays, emulating 6 cams.
- Configuration through PC interface or App (coming soon).
- Single turn measuring resolution guaranteed by 4096 points per revolution (12 bit) with accuracy lower than +/- 0,5%.
- Multiturn resolution: 16 bit (65535 revolutions).
- IP protection degree: Atlante Evo is classified IP 42 (without cover) or IP 65.
- Extreme temperature resistance: from -25°C to +80°C.
- Featuring technopolymer housing (nylon) and non-magnetic stainless steel AISI 303 shaft.
- High quality materials and components guarantee long mechanical life, precision and repeat accuracy even in extreme conditions.

OPTIONS

- It is fully compatible and it can be integrated in systems mounting rotary limit switch Fox.
- Equipped with 6 relays 60/125 V, 3/10 A (two 10A relays with safety function), NC or NO.
- Featuring Bus standard RS-485 output, CAN bus (coming soon).
- Configurable by PC configurator (Windows) or by Bluetooth through mobile application (coming soon).
- Featuring protection against polarity reversal and short circuit.
- Dedicated cable glands or connectors.
- Available with flanges, pinion gears and couplings.
- Plates with universal adapters to replace existing systems.

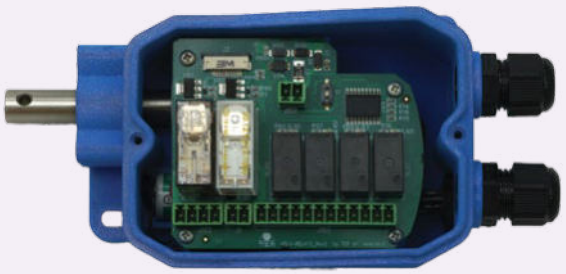
CERTIFICATIONS

- CE marking.
- Complying with accident prevention regulation BGV C1 (only for Germany).

Fill in the "request form" to configure properly the product.

Atlante EVO

Vista interna



CERTIFICATIONS

Conformity to Community Directives	2014/30/UE Electromagnetic Compatibility (EMC) Directive
	2006/42/CE Machinery Directive
	2014/35/UE Low Voltage Directive (LVD)
Conformity to CE Standards	EN 61326-1 Electrical equipment for measurement, control and laboratory use - EMC requirements
	EN 60529 Degrees of protection provided by enclosures
BGV C 1	Regulations for the prevention of accidents BGV C 1 (only for Germany)
Markings and homologations	CE

GENERAL TECHNICAL SPECIFICATIONS

Ambient temperature	Storage -25°C/+80°C
	Operational -25°C/+80°C
IP protection degree	IP 42 (without cover)
	IP 65
Insulation category	Class II
Maximum rotation speed	800 rpm
Connections	2 cable glands M20 and male connector M12 8 PIN

ELECTRICAL SPECIFICATIONS

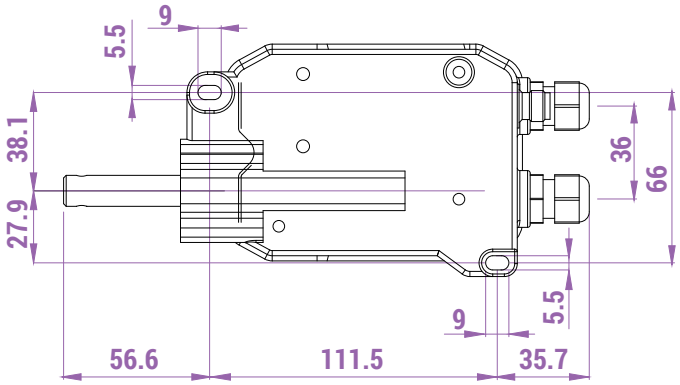
Power supply	24 Vdc +/-20%
Consumption	240 mA max
Interface	Bus RS-485
	CAN bus (coming soon)
	Bluetooth (coming soon)
Single-turn resolution	12 bit (4096 points per revolution)
Multi-turn resolution	16 bit (65535 revolutions)
Accuracy	±0.5%
Linearity	±0.25%
Protection against over-voltage and reverse polarity	Yes
Relays	6 relays 60/125 V, 3/10 A (two 10A relays with safety function), NC or NO.

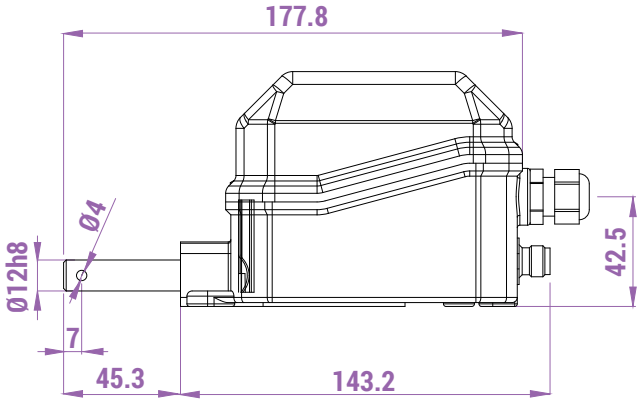
MALE CONNECTOR SPECIFICATIONS

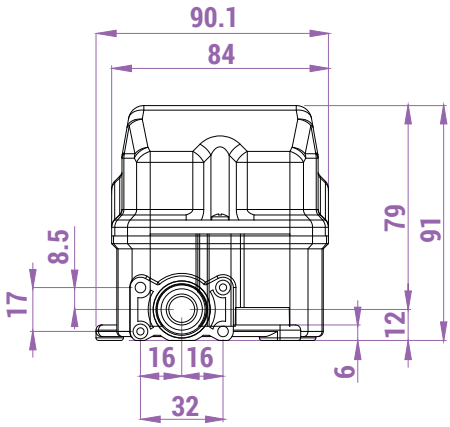
Number of PINs	8
Insulation resistance	500 V
Maximum voltage	24 V

OVERALL DIMENSIONS (mm)

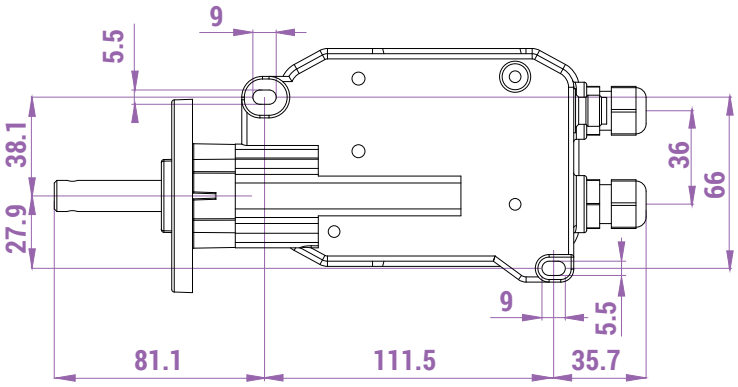
Standard

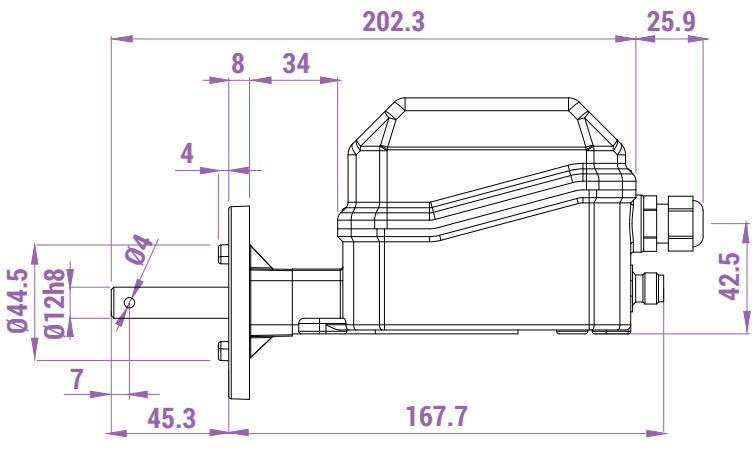


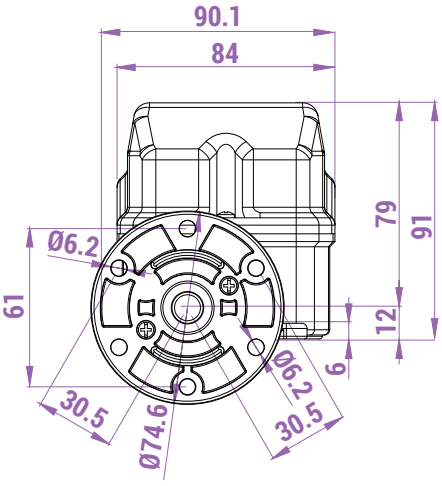




With flange







ATLANTE EVO - REQUEST FORM FOR ELECTRONIC LIMIT SWITCH

Instructions

1. **Protection degree**: tick the required protection degree.
2. **Version**: tick the required version.
3. **Shaft**: tick the shaft type required.
   Customized shafts are available on request.
4. **Coupling, flange, pinion gear**: tick the box when coupling, flange or pinion gear are required.
   When a standard pinion gear is required, write the code number listed in the pinion gear tables in the catalogue.
   When a special pinion gear is required, write the number of teeth, the module and the primitive diameter.

Protection degree 1

☐ IP 42 (without cover)

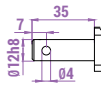
☐ IP 65

Version 2

☐ With 6 relays emulating cam functions.

☐ With 4 relays emulating cam functions + 2 relays 10A with safety function.

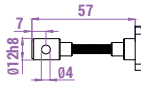
Standard shaft 3



☐ Stainless steel AISI 430F shaft

☐ High resistance stainless steel AISI 303 shaft

Flexible shaft



☐ Stainless steel AISI 430F shaft

☐ High resistance stainless steel AISI 303 shaft

☐ **Male coupling**

☐ **Female coupling**

☐ **Pinion gear**

☐ **Coupling** 4

☐ **Flange**

Pinion gear code _____

Customized pinion gear

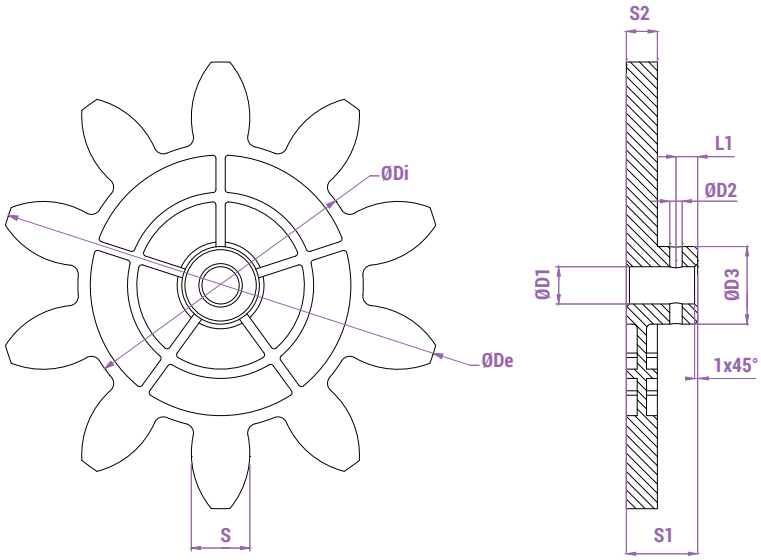
No. of teeth _____

Module _____

Primitive diameter _____

Remarks

Moulded pinion gears 3

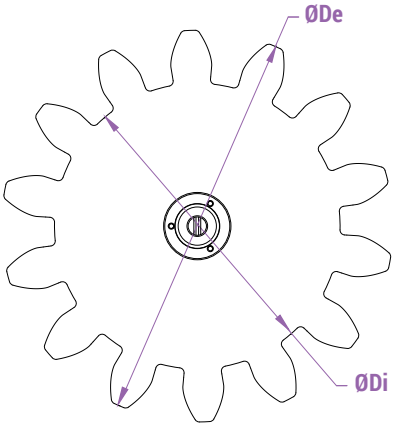


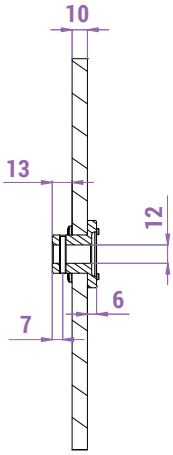
Legend	
Z	Number of teeth
M	Module
Dp	Primitive diameter
De	External diameter
Di	Internal diameter
a	Addendum
d	Dedendum
Alpha	Pressure angle

Code	Z	M	Dp	De	Di	a	d	S	Alpha	D1	D2	D3	S1	S2	L1
PRSL0915PI	8	20.00	160.00	200.00	113.20	20.00	23.40	31.41	20.00	12.00	4.00	24.00	23.00	10.00	7.00
PRSL0912PI	10	12.00	120.00	144.00	92.00	12.00	14.00	18.85	20.00	12.00	4.00	25.00	23.00	10.00	7.00
PRSL0913PI	10	14.00	140.00	168.00	107.24	14.00	16.38	21.99	20.00	12.00	4.00	24.60	23.00	10.00	7.00
PRSL0914PI	10	16.00	160.00	192.00	122.67	16.00	18.67	25.13	20.00	12.00	4.00	24.00	23.00	10.00	7.00
PRSL0917PI	11	6.00	66.00	78.00	51.96	6.00	7.02	9.42	20.00	12.00	4.00	19.00	23.00	8.00	7.00
PRSL0916PI	12	5.00	60.00	70.00	48.30	5.00	5.83	7.85	20.00	12.00	4.00	20.00	23.00	8.00	7.00
PRSL0918PI	12	8.00	96.00	112.00	77.28	8.00	9.36	12.56	20.00	12.00	3.90	21.50	23.50	10.00	7.00
PRSL0911PI	12	10.00	120.00	140.00	96.67	10.00	11.67	15.71	20.00	12.00	4.00	25.00	23.50	10.00	7.00
PRSL0944PI	12	12.00	144.00	168.00	116.00	12.00	14.00	18.85	20.00	12.00	4.00	24.00	23.00	10.00	7.00

Measuring unit: mm.

Waterjet cut pinion gears 3





Legend	
Z	Number of teeth
M	Module
Dp	Primitive diameter
De	External diameter
Di	Internal diameter
a	Addendum
d	Dedendum
Alpha	Pressure angle

Code	Z	M	Dp	De	Di	a	d	Alpha
PRSL0857PI	8	18.00	144.00	180.00	102.00	18.00	21.00	20.00
PRSL0855PI	8	24.00	192.00	240.00	136.00	24.00	28.00	20.00
PRSL0992PI	9	10.00	90.00	110.00	66.67	10.00	11.67	20.00
PRSL0879PI	9	16.00	144.00	176.00	106.67	16.00	18.67	20.00
PRSL0854PI	9	18.00	162.00	198.00	120.00	18.00	21.00	20.00
PRSL0871PI	9	20.00	180.00	220.00	133.33	20.00	23.33	20.00
PRSL0849PI	9	24.00	216.00	264.00	160.00	24.00	28.00	20.00
PRSL0846PI	10	10.00	100.00	120.00	76.67	10.00	11.67	20.00
PRSL0993PI	10	18.00	180.00	216.00	138.00	18.00	21.00	20.00
PRSL0970PI	10	22.00	220.00	264.00	168.52	22.00	25.74	20.00
PRSL0856PI	10	24.00	240.00	288.00	184.00	24.00	28.00	20.00
PRSL0861PI	11	12.00	132.00	156.00	104.00	12.00	14.00	20.00
PRSL0998PI	11	18.00	198.00	234.00	156.00	18.00	21.00	20.00
PRSL0997PI	11	20.00	220.00	260.00	173.36	20.00	23.32	20.00
PRSL0859PI	11	24.00	264.00	312.00	204.00	24.00	30.00	20.00
PRSL0863PI	12	14.00	168.00	196.00	133.00	14.00	17.50	20.00
PRSL0897PI	12	16.00	192.00	224.00	154.67	16.00	18.67	20.00
PRSL0972PI	12	18.00	216.00	252.00	173.88	18.00	21.06	20.00
PRSL0845PI	12	20.00	240.00	280.00	193.34	20.00	23.32	20.00
PRSL0878PI	12	24.00	288.00	336.00	232.00	24.00	28.00	20.00
PRSL0860PI	13	6.00	78.00	90.00	63.00	6.00	7.50	20.00
PRSL0853PI	13	12.00	156.00	178.59	126.00	11.29	15.00	20.00
PRSL0898PI	13	16.00	208.00	240.00	170.67	16.00	18.66	20.00
PRSL0862PI	14	10.00	140.00	169.00	125.00	15.00	7.50	20.00
PRSL0896PI	14	16.00	224.00	256.00	186.67	16.00	18.67	20.00
PRSL0999PI	14	18.00	252.00	288.00	210.00	18.00	21.00	20.00
PRSL0848PI	14	20.00	280.00	320.00	233.33	20.00	23.33	20.00
PRSL0858PI	15	18.00	270.00	306.00	228.00	18.00	21.00	20.00
PRSL0847PI	16	20.00	320.00	360.00	273.33	20.00	23.33	20.00
PRSL0973PI	17	10.00	170.00	190.00	145.00	10.00	12.50	22.89
PRSL0974PI	17	14.00	238.00	266.00	203.00	14.00	17.50	22.89
PRSL0851PI	20	6.00	120.00	132.00	105.00	6.00	7.50	22.89
PRSL0844PI	25	1.00	25.00	27.00	22.50	1.00	1.25	22.89

Measuring unit: mm.

EGON
Encoders

Single-turn or multi-turn magnetic angular encoders, which measure and convert mechanical rotations into scaled electrical signals or digital outputs, suitable to enable the detection of the position in motion control systems. They are used in a variety of industrial sectors, from automation to robotics, from medical to marine equipment, from stage technology to automotive

MODELS

- EGON 36 - Analog single-turn absolute simple or redundant encoder.
- EGON 36-RS - Digital multi-turn absolute encoder.
- EGON 58-D - Multi-turn angular encoder.

FEATURES

- Compact and flexible, they are designed for easy assembly and wiring, in combination with standard sets of cams or as an alternative to potentiometers.
- IP protection degree:
  - Egon 36 and Egon 36-RS are classified IP 65.
  - Egon 58-D is classified IP 65 / IP 67 / IP 69K.
- Extreme temperature resistance: from -25°C to +85°C.
- High quality materials and components guarantee maximum mechanical life, precision and repeatability even in extreme conditions.

OPTIONS

- Featuring protection against input/output over-current and over-voltage and against reverse polarity.
- Available with clamping flange, interface female connector and adapter coupling (Ø 6-6, Ø 6-8, Ø 6-10).
- Suitable for assembly on Fox, Oscar and Top rotary limit switches and on Hercules joysticks to control multi-revolution rotors (depending on the encoder).

CERTIFICATIONS

- CE marking.

Fill in the "request form" to configure properly the product.

EGON 36

- Single-turn absolute simple or redundant angular encoder with magnetic technology, emulating a traditional potentiometer thanks to the resulting analog output, guaranteeing immunity to disturbances.
- It reads the shaft position within a range of 0°... 360°, transforming it into the corresponding analog signal.
- Possibility of using long cables without causing instability.
- Current or voltage calibrated output.
- Available with cable gland or connector.
- Maximum level of safety guaranteed by the double stage redundant scheme (redundant version).
- Wear-resistant technopolymer housing and stainless steel AISI 303 shaft.

Egon 36

Internal view

CERTIFICATIONS - EGON 36

Conformity to Community Directives	2014/35/UE Low Voltage Directive (LVD)
	2014/30/UE Electromagnetic Compatibility (EMC) Directive
	2006/42/CE Machinery Directive
Conformity to CE Standards	EN 60204-1 Safety of machinery - Electrical equipment of machines
	EN 60529 Degrees of protection provided by enclosures
	EN 61326-1 Electrical equipment for measurement, control and laboratory use - EMC requirements - General requirements
	EN 61326-2-3 Electrical equipment for measurement, control and laboratory use - EMC requirements - Particular requirements - Test configurations, operational conditions and performance criteria for transducers with integrated or remote signal conditioning
	EN 61326-3-1 Electrical equipment for measurement, control and laboratory use - EMC requirements – Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) – General industrial applications
Markings and homologations	CE

GENERAL TECHNICAL SPECIFICATIONS - EGON 36

Ambient temperature	Storage -25°C/+85°C
	Operational -25°C/+85°C
IP protection degree	IP 65
Rated rotation speed	800 rpm
Maximum rotation speed	1500 rpm
Mechanical life	> $30x10^6$ revolutions
Shaft diameter	6 mm
Connections	Male connector M8 - 4 PIN
	Cable gland M8 with cable

ELECTRICAL SPECIFICATIONS - EGON 36

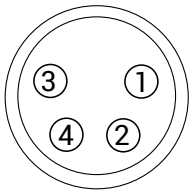
Power supply	12...30 Vdc
Analog output	Current 4...20 mA Voltage 1...5 V Voltage 2...10 V
Consumption	35 mA simple version 55 mA redundant version
Single-turn resolution	12 bit (4096 points per revolution)
Protection against input/output over-current	Yes
Protection against input/output over-voltage	Yes
Accuracy	± 0.5%
Linearity	± 0.25%
Redundancy	2 complementary outputs (analog)

MALE CONNECTOR SPECIFICATIONS - EGON 36

Number of PINs	4
Insulation resistance	≥100 MΩ
Contacts	Gold plated copper alloy
Mating	Female connector M8 - 4 PIN (Amphenol 8P-04AFFM-SL7A01)

MALE CONNECTOR ASSIGNMENT - EGON 36

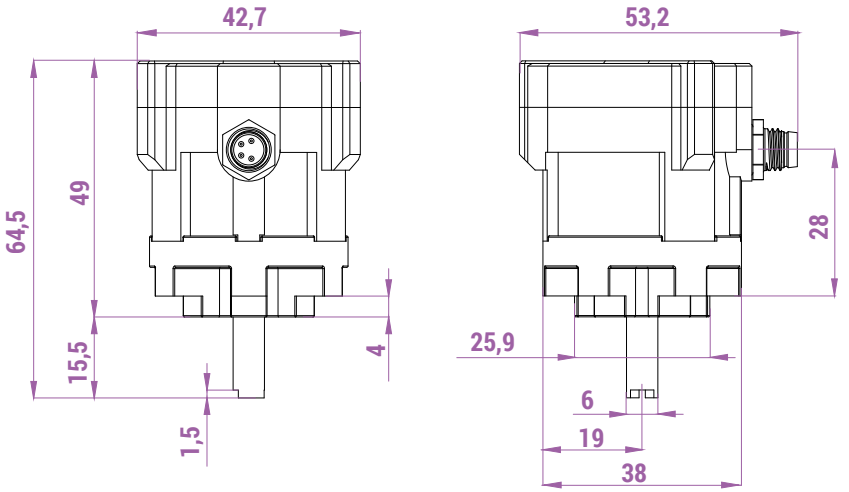
4 PINs connector



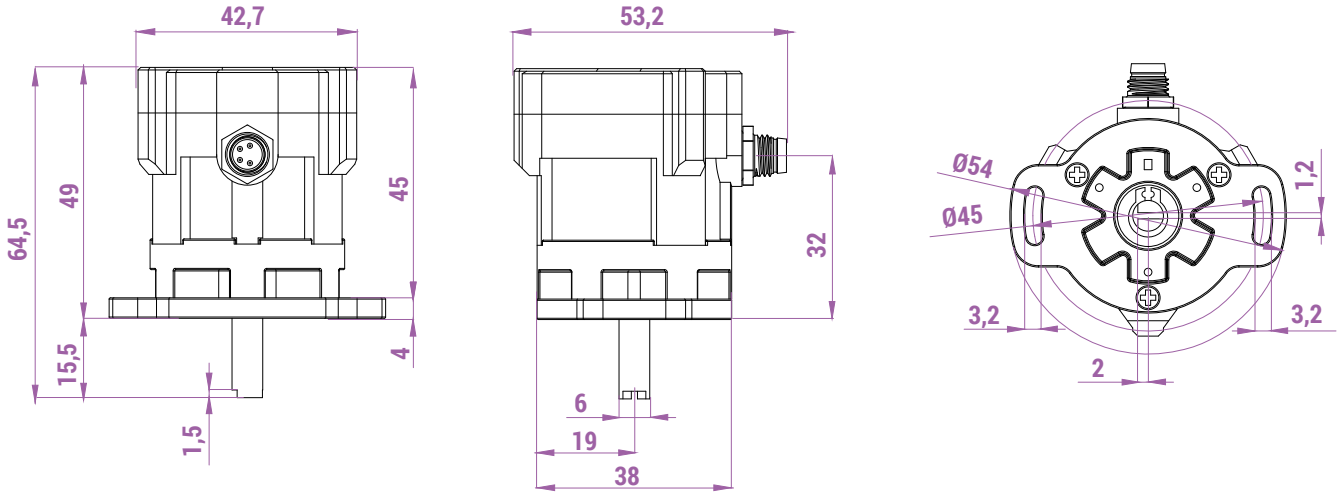
PIN	Signal
1	12...30 Vdc
2	IOut 1 / VOut1
3	IOut 2 / VOut 2
4	GND

OVERALL DIMENSIONS (mm) - EGON 36

Egon 36



Egon 36 with flange



ADAPTER COUPLINGS

Codice	Descrizione
VV000060	Adapter coupling Ø 6 - 6 mm
VV000061	Adapter coupling Ø 6 - 8 mm
VV000062	Adapter coupling Ø 6 - 10 mm

EGON 36 - REQUEST FORM FOR ENCODER

Instructions

1. **Type of encoder**: tick the box corresponding to the type of encoder required.
2. **Output**: tick the box corresponding to the output required.
3. **Flange**: tick the box when the flange is required.
4. **Connections:** tick the box corresponding to connection required.

Type of encoder 1

☐ Simple

☐ Redundant

Output 2

☐ Current 4...20 mA

☐ Voltage 1...5 V

☐ Voltage 2...10 V

☐ Flange 5

Connections

☐ Male connector M8 - 4 PIN

☐ Cable gland M8 with cable

- ☐ 1 m cable
- ☐ 2 m cable
- ☐ 3 m cable

EGON 36-RS

- Magnetic multi-turn absolute encoder, suitable for counting the shaft revolutions even without power supply thanks to the backup battery that intervenes when the encoder detects the shaft rotation.
- Featuring output with Modbus RTU protocol over RS-485 bus or with RS-485 PTP basic protocol.
- Extremely reduced power consumption guarantees highest efficiency.
- Available with cable gland or connector.
- Wear-resistant technopolymer housing and stainless steel AISI 303 shaft.

Egon 36-RS

Internal view

CERTIFICATIONS - EGON 36-RS

Conformity to Community Directives	2014/35/UE Low Voltage Directive (LVD)
	2014/30/UE Electromagnetic Compatibility (EMC) Directive
	2006/42/CE Machinery Directive
Conformity to CE Standards	EN 60204-1 Safety of machinery - Electrical equipment of machines
	EN 60529 Degrees of protection provided by enclosures
	EN 61326-1 Electrical equipment for measurement, control and laboratory use - EMC requirements - General requirements
	EN 61326-2-3 Electrical equipment for measurement, control and laboratory use - EMC requirements - Particular requirements - Test configurations, operational conditions and performance criteria for transducers with integrated or remote signal conditioning
	EN 61326-3-1 Electrical equipment for measurement, control and laboratory use - EMC requirements – Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) – General industrial applications
Markings and homologations	CE

GENERAL TECHNICAL SPECIFICATIONS - EGON 36-RS

Ambient temperature	Storage -25°C/+85°C
	Operational -25°C/+85°C
IP protection degree	IP65
Rated rotation speed	800 rpm (powered)
	100 rpm (battery)
Maximum rotation speed	1200 rev/min
Mechanical life	> $30x10^6$ revolutions
Shaft diameter	6 mm
Connections	Male connector M8 - 4 PIN
	Cable gland M8 with cable

ELECTRICAL SPECIFICATIONS - EGON 36-RS

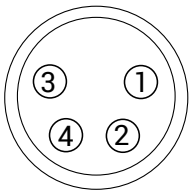
Power supply	12...30 Vdc
Output (only with power supply)	Modbus RTU protocol over RS-485 bus
	RS-485 PTP basic protocol
Consumption	~20 mA
Single-turn resolution	10 bit (1024 points per revolution) (standard version)
	12 bit (4096 points per revolution) (max speed 200 rev/min)
Multi-turn resolution	14 bit (16384 revolutions) (standard version)
	16 bit (65535 revolutions)
Back-up time	~10 years non-stop
Protection against input/output over-current	Yes
Protection against over-voltage and reverse polarity	Yes
Accuracy	± 0.5%
Linearity	± 0.4%

MALE CONNECTOR SPECIFICATIONS - EGON 36-RS

Number of PINs	4
Insulation resistance	≥100 MΩ
Contacts	Gold plated copper alloy
Mating	Female connectors M8 - 4 PIN (Amphenol 8P-04AFFM-SL7A01)

MALE CONNECTOR ASSIGNMENT - EGON 36-RS

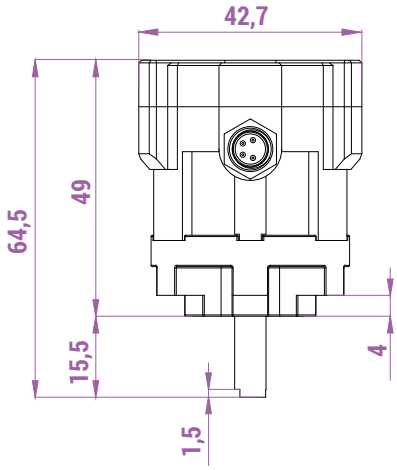
4 PINs connector

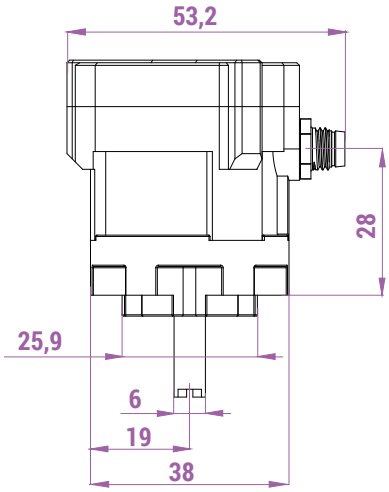


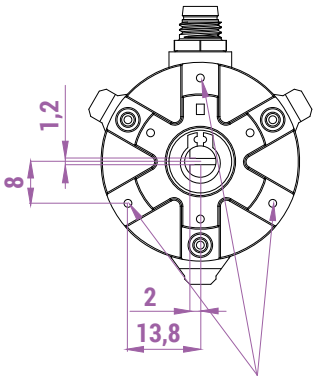
PIN	Signal
1	12...30 Vdc
2	RS-485 B
3	GND
4	RS-485 A

OVERALL DIMENSIONS (mm) - EGON 36-RS

Egon 36-RS

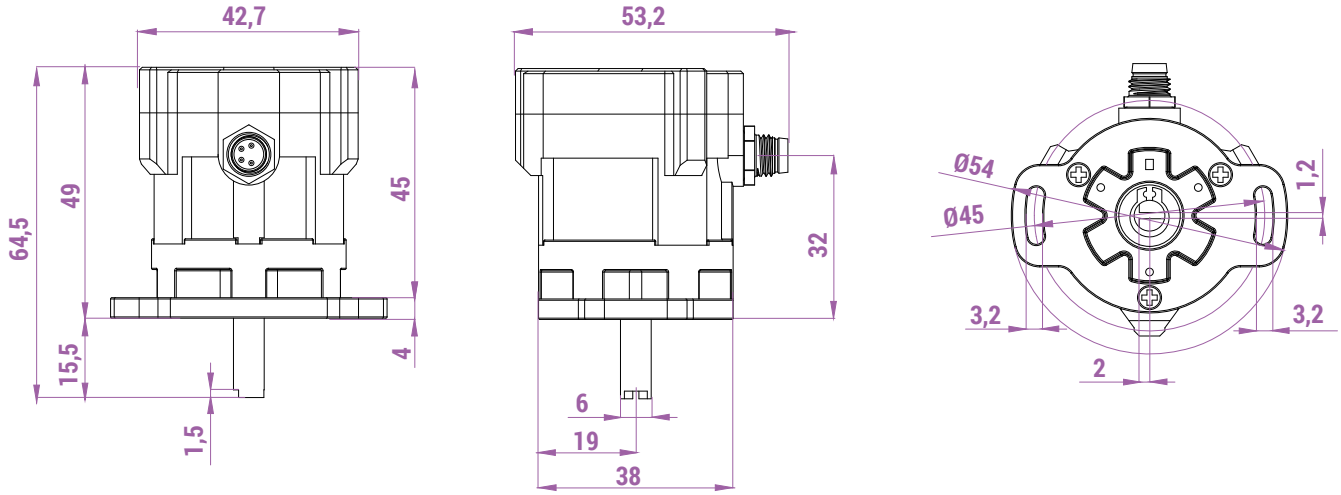






Ø holes 1.8 mm
↧ hole depth 8 mm
No.3 screws ISO7049-ST2.5

Egon 36-RS with flange



ADAPTER COUPLINGS

Codice	Descrizione
VV000060	Adapter coupling Ø 6 - 6 mm
VV000061	Adapter coupling Ø 6 - 8 mm
VV000062	Adapter coupling Ø 6 - 10 mm

EGON 36-RS - REQUEST FORM FOR ENCODER

Instructions

1. **Protocol:** tick the box corresponding to the protocol required.
2. **Flange**: tick the box when the flange is required.
3. **Connections:** tick the box corresponding to connection required.

Protocol 1

☐ Modbus RTU over RS-485 bus

☐ RS-485 PTP basic

☐ Flange 2

Connections 3

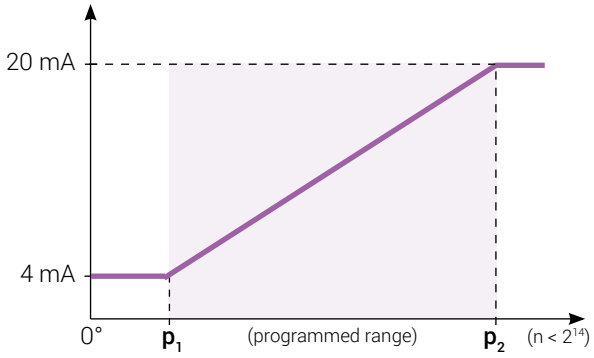
☐ Male connector 4 PIN

☐ Cable gland M8 - 4 PIN with cable

- ☐ 1 m cable
- ☐ 2 m cable
- ☐ 3 m cable

EGON 58-D

- Multi-turn magnetic angular encoder that detects the angular position of the shaft within a programmable range, transforming it into the corresponding 4...20 mA analog or CAN-bus signal.
- Equipped with 4...20 mA analog interface or CAN-bus digital interface, it guarantees immunity to disturbances and the possibility of using long cables without causing instability.
- Aluminum housing and stainless steel AISI 303 shaft.
- The current output acquires a value proportional to the number of revolutions (shaft rotations expressed in degrees) within the programmed range.



Egon 58-D

Internal view

CERTIFICATIONS - EGON 58-D

Conformity to Community Directives	2014/35/UE Low Voltage Directive (LVD)
	2014/30/UE Electromagnetic Compatibility (EMC) Directive
	2006/42/CE Machinery Directive
Conformity to CE Standards	EN 60204-1 Safety of machinery - Electrical equipment of machines
	EN 60529 Degrees of protection provided by enclosures
	EN 61326-1 Electrical equipment for measurement, control and laboratory use - EMC requirements - General requirements
	EN 61326-2-3 Electrical equipment for measurement, control and laboratory use - EMC requirements - Particular requirements - Test configurations, operational conditions and performance criteria for transducers with integrated or remote signal conditioning
	EN 61326-3-1 Electrical equipment for measurement, control and laboratory use - EMC requirements – Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) – General industrial applications
Markings and homologations	CE

GENERAL TECHNICAL SPECIFICATIONS - EGON 58-D

Ambient temperature	Storage -25°C/+85°C
	Operational -25°C/+85°C
IP protection degree	IP 65 / IP 67 / IP 69K
Maximum rotation speed	1500 rpm
Shaft	Ø 10 mm
	Ø 10 mm flat
Connections	Code A male connector M12 - 8 PIN (digital version)

ELECTRICAL SPECIFICATIONS - EGON 58-D

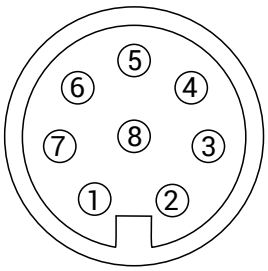
Power supply	12...30 Vdc
Output	Analog 4...20 mA
	Digital CAN-bus with proprietary protocol
Consumption	50 mA @ 24Vdc
Single-turn resolution	12 bit (4096 points per revolution)
Multi-turn resolution	± 15 bit (± 32768 revolutions)
Analog output resolution	14 bit (16384 points)
Back-up autonomy	~ 6 years
Protection against input/output over-current	Yes
Protection against input/output over-voltage	Yes
Accuracy	± 0.5%
Linearity	± 0.25%
Output programmable range	± 32767 revolutions (default 10 revolutions)

MALE CONNECTOR SPECIFICATIONS - EGON 58-D

Number of PINs	8
Insulation resistance	≥ 100 MΩ
Contacts	Gold plated zinc-copper alloy
Mating	Female connector M12 - 8 PIN PRVV9523PE (Amphenol LTW12P-08BFFA-SL8001)
	Female connector M12 - 8 PIN PIN PRVV9505PE (Phoenix Contact 1513347)

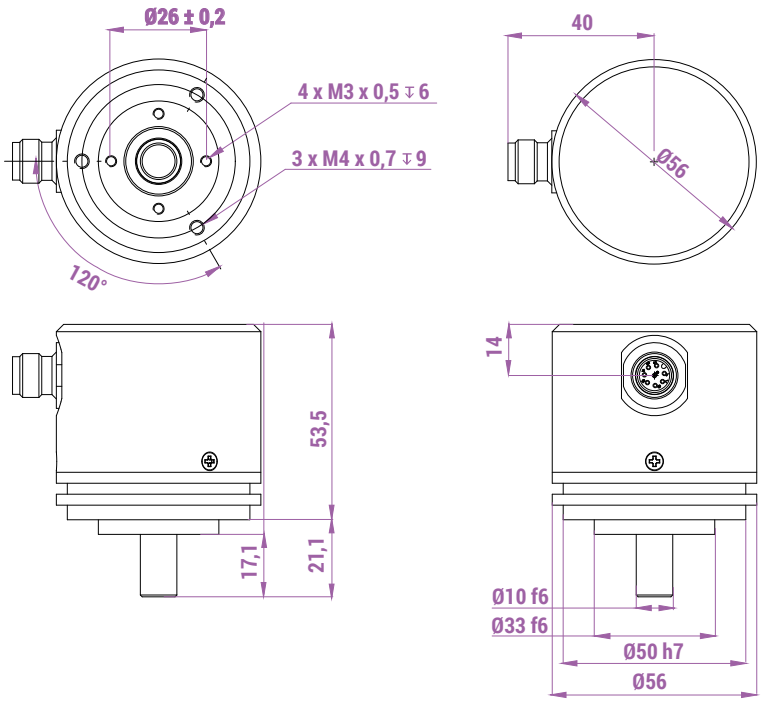
MALE CONNECTOR ASSIGNMENT - EGON 58-D

Male connector 8 PIN

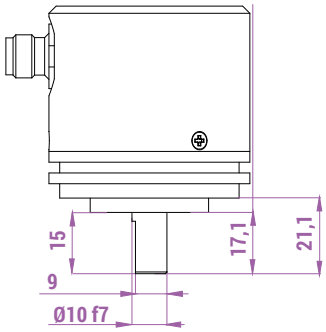


PIN	Signal
1	+Vcc
2	TEACH
3	LED
4	Analog/CAN selector
5	I-Out
6	CAN-B (only digital output)
7	CAN-A (only digital output)
8	GND

OVERALL DIMENSIONS (mm) - EGON 58-D



Egon 58-D with flat shaft Ø 10 mm



ENCODER EGON 58-D

Description	Code
Analog 4...20 mA encoder with shaft Ø 10 mm	F18A043E1X00
Analog 4...20 mA encoder with flat shaft Ø 10 mm	F18A043E2X00
Digital Can-open encoder with shaft Ø 10 mm	F18N044E1X00
Digital Can-open encoder with flat shaft Ø 10 mm	F18N044E2X00

ERMES
Incremental encoder HS

High speed incremental encoder which measures and converts mechanical rotations into scaled electrical signals, suitable for motion control systems to detect position and speed. It is used in a variety of industrial sectors.

FEATURES

- Based on magnetic sensing method.
- Extremely compact and light, it is designed for easy assembly and wiring.
- IP protection degree: Ermes is classified IP 42
- Extreme temperature resistance: from -25°C to +85°C.
- Aluminum enclosure and high quality materials and components guarantee maximum mechanical life, precision and repeatability even in extreme conditions.

OPTIONS

- Totally immune to interference in compliance with standard DIN EN 61000-6-2.
- Featuring protection against input/output over-current and over-voltage and against reverse polarity.
- Fitted with 6 or 10 mm diameter shaft.
- Suitable for assembly on limit switches to control multi-revolution rotors.

CERTIFICATIONS

- CE marking.

Fill in the "request form" to configure properly the product.

CERTIFICATIONS

Conformity to Community Directives	2014/35/UE Low Voltage Directive (LVD)
	2014/30/UE Electromagnetic Compatibility (EMC) Directive
	2006/42/CE Machinery Directive
Conformity to CE Standards	EN 60204-1 Safety of machinery - Electrical equipment of machines
	EN 60529 Degrees of protection provided by enclosures
	EN 61326-1 Electrical equipment for measurement, control and laboratory use - EMC requirements - General requirements
	EN 61326-2-3 Electrical equipment for measurement, control and laboratory use - EMC requirements - Particular requirements - Test configurations, operational conditions and performance criteria for transducers with integrated or remote signal conditioning
	EN 61326-3-1 Electrical equipment for measurement, control and laboratory use - EMC requirements – Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) – General industrial applications
Markings and homologations	CE

GENERAL TECHNICAL SPECIFICATIONS

Ambient temperature	Storage -25°C/+80°C
	Operational -25°C/+80°C
IP protection degree	IP 42
Maximum rotation speed	15000 rpm
Shaft diameter	6 mm
	10 mm
Connections	Cable

ELECTRICAL SPECIFICATIONS

Power supply	10...30 Vdc
Consumption	25 mA (24 Vdc, without load)
Pulses per revolution	10...1024
Revolution reference signal	Zero pulse, width 90°
Sensing method	Magnetic
Output signals	A 90° B, Z + inverted
Output stages	Linedriver/RS422
	Push-pull short-circuit proof
Output interface	5 VDC/5V (TTL compatible) normal output
	5 VDC/5V (TTL compatible) complementary output
	10..30 VDC/push-pull short-circuit proof normal output
	10..30 VDC/push-pull short-circuit proof complementary output
	10..30 VDC/5V normal output
	10..30 VDC/5V complementary output

NUMBER OF PULSES/REVOLUTION

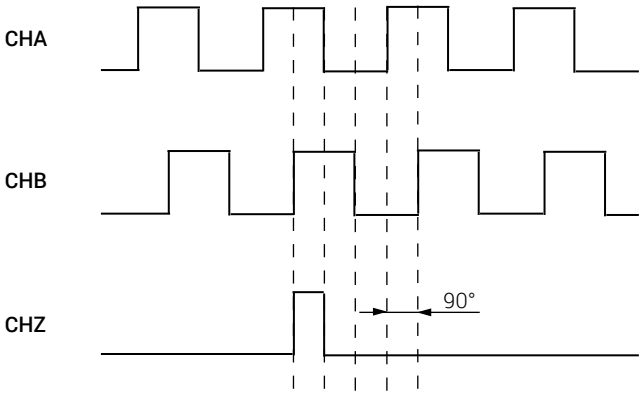
10	36	100	256	360	512	750	1024

TRIGGER LEVEL

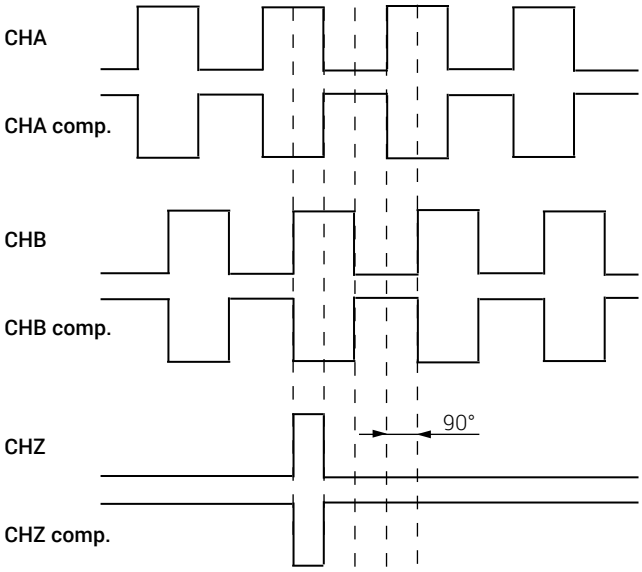
Outputs	5 VDC/5V (TTL compatible) normal/ complementary output 10..30 VDC/5V normal/complementary output	10..30 VDC/push-pull short-circuit proof normal/ complementary output
Output level High	>2.4 V (I = -20 mA)	>+Vs - 0.7 V (I = 30 mA)
Output level Low	<0.4 V (I = 20 mA)	<0.7 V (I = 30 mA)
Load High	<20 mA	<30 mA
Load Low	<20 mA	<30 mA

OUTPUT SIGNALS

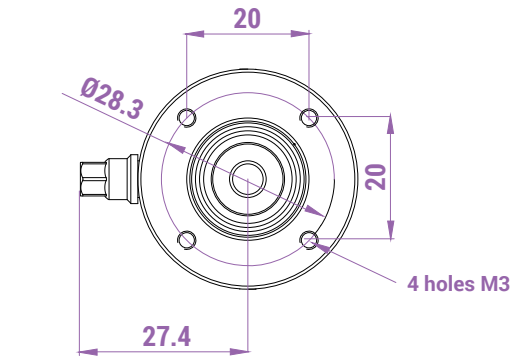
Normal output

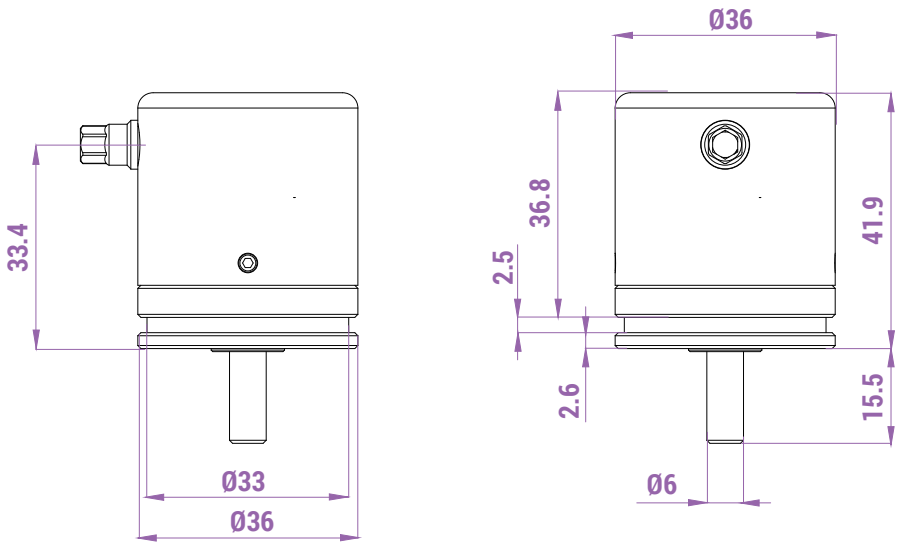


Complementary output

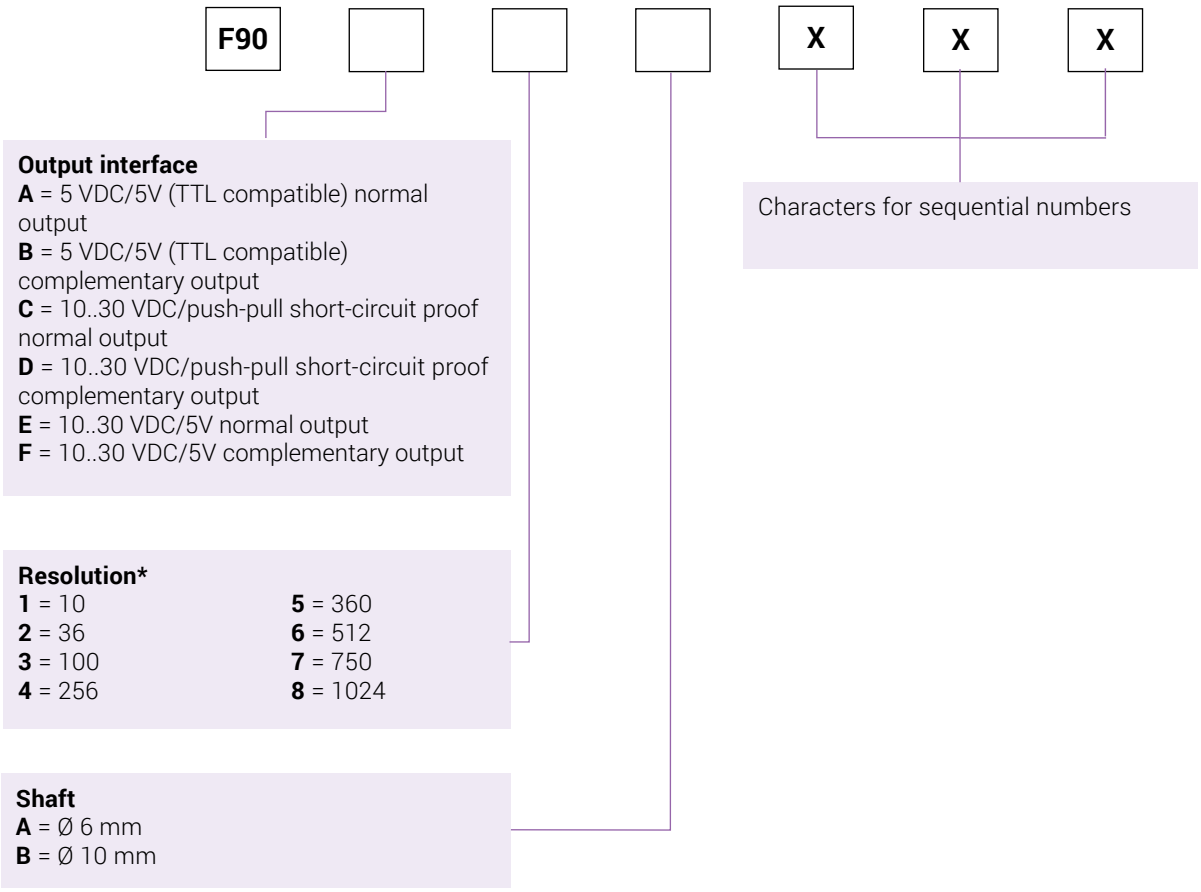


OVERALL DIMENSIONS (mm)





ERMES - REQUEST FORM FOR INCREMENTAL ENCODER HS



* To request customized resolutions, please contact the sales department (+39 0399911011 - info@ter.it).

Instructions

Fill in the boxes with the numbers/letters corresponding to the specifications required, thus obtaining the encoder code, as shown in the example below.

F90	A	8	A	X	X	X

The encoder is supplied with 1 m cable.
For customized requests, please contact the sales department (+39 0399911011 - info@ter.it).

7551 EVO

Multiple position limit switch

Multiple position limit switch, also suitable to be used as a low resolution absolute encoder, designed to control the movement of overhead travelling cranes, hoists and complex machine tools.
The choice of materials and technical solutions adopted enable use in harsh operating conditions.

FEATURES

- Designed to guarantee excellent performance in the most challenging operating conditions.
- Rods without mechanical interlock, suitable for multiple revolutions.
- Binary coding in 16 (standard) or 32 positions, one position every 90°.
- 4 fixing holes.
- 4 (standard) or 5 clean contacts, returning the information received in binary digital form, ready to be read by a PLC or by a dedicated control unit.
- Position resetting through a hardware signal.
- 1 contact available for use as a diagnostic line for error detection.
- The detected position is maintained even after an ON and OFF cycle.
- Mechanical life of switches: 1 million operations.
- Operation frequency: max. 3600 operations/hour.
- IP protection degree: 7551 Evo is classified IP66.
- Extreme temperature resistance: -25°C to +70°C.
- It features die-cast aluminum alloy enclosure, with bushings made of sinterized material and head made of zama to resist any violent impact, chemical aggression and rust and to reduce the need for routine maintenance operations on the head.
- All materials and components used are wear resistant and guarantee protection of the unit against water and dust.

CERTIFICATIONS

- CE marking.

INTERNAL VIEW

CERTIFICATIONS

Conformity to Community Directives	2014/30/UE Electromagnetic Compatibility (EMC) Directive
	2006/42/CE Machinery Directive
	2014/35/UE Low Voltage Directive (LVD)
Conformity to CE Standards	EN 60204-1 Safety of machinery - Electrical equipment of machines
	EN 60204-32 Safety of machinery - Electrical equipment of machines - Requirements for hoisting machines
	EN 60947-1 Low-voltage switchgear and controlgear
	EN 60947-5-1 Low-voltage switchgear and controlgear - Control circuit devices and switching elements - Electromechanical control circuit devices
	EN 60529 Degrees of protection provided by enclosures
	EN 61326-1 Electrical equipment for measurement, control and laboratory use - EMC requirements - General requirements
	EN 61326-2-3 Electrical equipment for measurement, control and laboratory use - EMC requirements - Particular requirements - Test configurations, operational conditions and performance criteria for transducers with integrated or remote signal conditioning
Markings and homologations	CE

GENERAL TECHNICAL SPECIFICATIONS

Ambient temperature	Storage -25°C/+70°C
	Operational -25°C/+70°C
IP protection degree	IP66 max. with specific cable gland M20
Insulation category	Class I
Operation frequency	Max. 3600 operations/hour
Connections	5 meter cable
	18 PIN connector Amphenol CU-18PMMP-LC7001

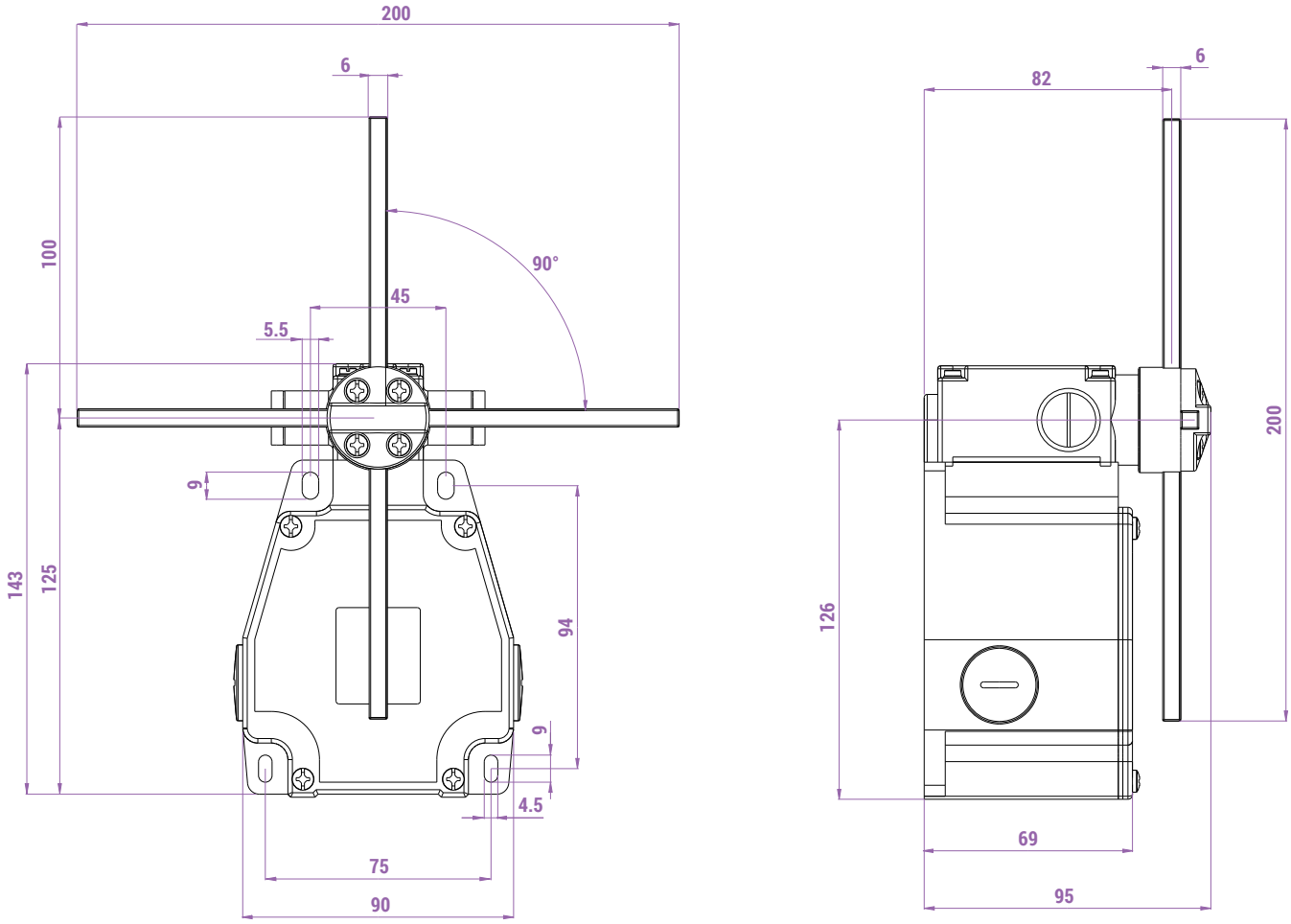
ELECTRICAL SPECIFICATIONS

Power supply	24 Vdc
Consumption	250 mA max

TECHNICAL SPECIFICATIONS OF THE RELAYS

Rated operational current	3 A
Rated operational voltage	30 Vdc, 125 Vac, 250 Vac
Rated insulation voltage	500 Vac
Mechanical life	$5x10^6$ operations
Markings and homologations	UL Recognized (File No. E41515)
	CSA certified (File No. LR31928)
	VDE Certified No. 40009467

OVERALL DIMENSIONS (mm)



BINARY CODE MAP

Relay 1	Relay 2	Relay 3	Relay 4	CW rotation	CCW rotation
Open	Open	Open	Open	Zero	Zero
Closed	Open	Open	Open	90	-1350
Open	Closed	Open	Open	180	-1260
Closed	Closed	Open	Open	270	-1170
Open	Open	Closed	Open	360	-1080
Closed	Open	Closed	Open	450	-990
Open	Closed	Closed	Open	540	-900
Closed	Closed	Closed	Open	630	-810
Open	Open	Open	Closed	720	-720
Closed	Open	Open	Closed	810	-630
Open	Closed	Open	Closed	900	-540
Closed	Closed	Open	Closed	990	-450
Open	Open	Closed	Closed	1080	-360
Closed	Open	Closed	Closed	1170	-270
Open	Closed	Closed	Closed	1260	-180
Closed	Closed	Closed	Closed	1350	-90

STANDARD LIMIT SWITCHES

Description	Code
Limit switch with 4 relays and cable (5 meters)	F75514NA1001
Limit switch with 4 relays and 18 PIN connector	F75514NA0001