DATA SHEET ENCODER V1.0

EVR100P

ARTICLE PROPERTIES

TYPE	Heavydic series hollow shaft encoder with overspeed switch
SIZE	Ø 100

TECHNICAL DATA

SHAFT DIAMETER	Ø 25H7 mm / Ø 30H7 mm / Ø 38H7 mm / Ø 40H7 mm / Ø 42H7 mm / Ø 45H7 mm	**STARTING TORQUE**	< 0.05 N·m < 0.1 N·m (with oil seal)
SPEED	3000 rpm (IP64) 1500 rpm (IP66)	**BODY MATERIAL**	Aluminum
BEARING LIFE	10^9 revolution	**HOUSING MATERIAL**	Aluminum
MOMENT OF INERTIA	15 x 10^{-6} kgm^2	**WEIGHT**	1800 g

ENVIRONMENTAL CONDITIONS

PROTECTION CLASS	Max. IP66	**OPERATING TEMPERATURE**	-20 ... +90 °C
MAX LOAD CAPACITY OF THE SHAFT	100 N axial, 200 N radial	**STORAGE TEMPERATURE**	-40 ... +100 °C
SHOCK RESISTANCE (EN 60068-2-27)	50 g, 11 ms	**RELATIVE HUMIDITY / CONDENSATION**	90%, condensation not permitted
VIBRATION RESISTANCE (EN 60068-2-6)	10 g, 10 ... 2000 Hz		

ELECTRICAL PARAMETERS

OUTPUT CIRCUIT	RS422	PUSH-PULL	PUSH-PULL
RESOLUTION	Max. 2048 ppr	Max. 2048ppr	Max. 2048ppr
SUPPLY VOLTAGE	5±0.25 or 5(10) ... 30 V DC	10 ... 30 V DC	5 ... 30 V DC
POWER CONSUMPTION (NO LOAD)	≤ 80 mA	≤ 125 mA	≤ 125 mA
PERMISSIBLE LOAD	± 50 mA	± 80 mA	± 80 mA
PULSE FREQUENCY	Max. 800 kHz	Max. 800 kHz	Max. 800 kHz
SIGNAL LEVEL HIGH	Min. 3.4 V	Min. Ub-1.8	Min. Ub-1.8
SIGNAL LEVEL LOW	Max. 0.4 V	Max. 2.0 V	Max. 0.4 V
RISE TIME TR	Max. 200 ns	Max. 1 µs	Max. 1 µs
FALL TIME TF	Max. 200 ns	Max. 1 µs	Max. 1 µs

STANDARDS AND DIRECTIVES

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR	EN IEC 61000-6-2 EN IEC 61000-6-4

EVR100P

TERMINAL ASSIGNMENT

Signal	0 V	$+U_B$	A	$\overline{A}$	B	$\overline{B}$	Z	$\overline{Z}$	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	⏚

TERMINAL ASSIGNMENT - MECHANICAL OVERSPEED SWITCH

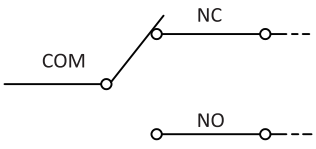
Signal	K1	K4							Shield
Color	BU	BK							PH
K1 and k4 are in the relay close state,when the motor's speed is over the default setting value, K1 and K4 will turn from close to open.									

TERMINAL ASSIGNMENT - ELECTRONIC OVERSPEED SWITCH

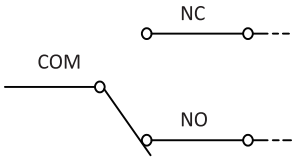
Signal	0V	$+U_B$	C1	NO1	NC1	C2	NO2	NC2	C3	NO3	NC3	Shield
Color	BK	RD	WH	GN	YE	BN	BU	GY	VT	PK	GY/PK	⏚

WIRING DIAGRAM

Power off/Alarms



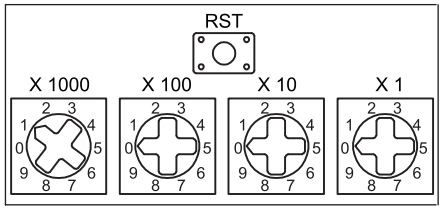
Power on



COM and NC are in the relay close state, COM and NO are in the relay open state. In the Power-off state, COM and NC are in the relay close state and ouput 1. In the Power-on state, COM and NO are in the relay close state and ouput 0. When the motor's speed is over the default setting value, COM and NO will turn from close to open, COM and NC will turn from open to close and ouput 1 . NC1, C1 and NO1 form the first group, NC2, C2 and NO2 form the second group, NC3, C3 and NO3 form the third group, each group of overspeed switches is mutually isolated.

Attention:
1. Input rated voltage: 24 V DC
2. The speed value of overspeed switch can select from 10 rpm to 3000 rpm.
3. Please select the speed of overspeed switch is 1.1 to 1.2 times rated speed of motor.

Digital overspeed switch Speed setting dip switch

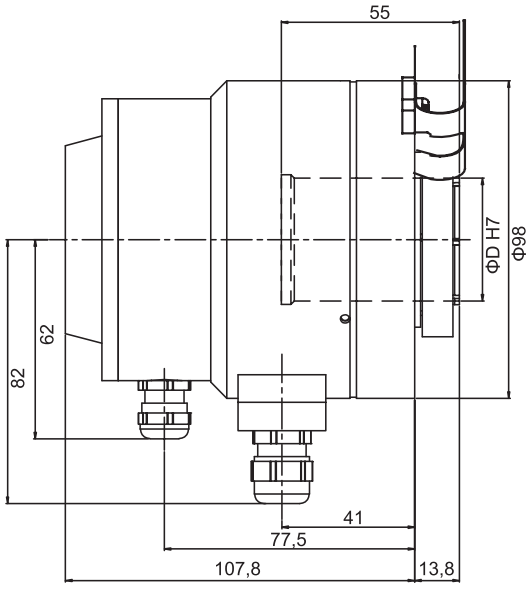


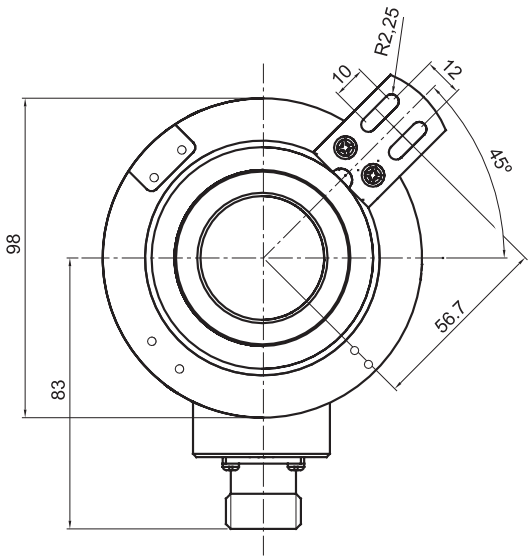
Digital overspeed switch speed setting method
1.In the Power-off state, Set the speed by using the speed dip switch and switch on the power supply
2.In the Power-on state, set the speed by using the speed dip switch and press the RST button

EVR100P

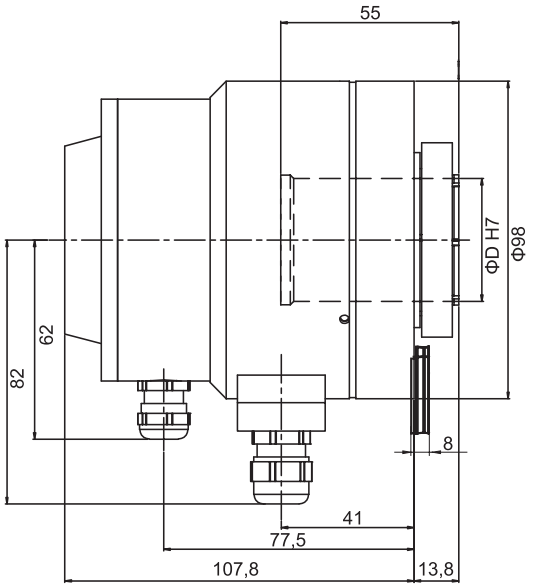
DIMENSIONS (mm)

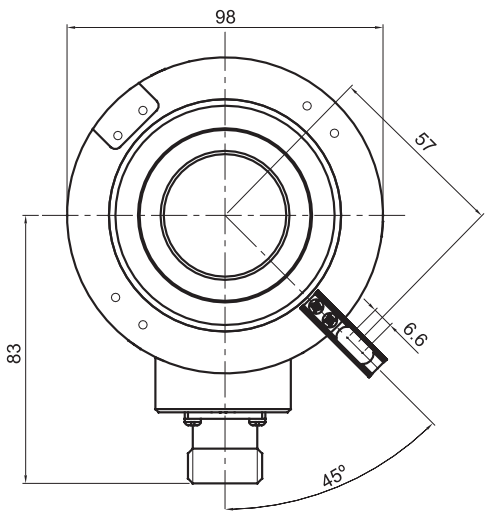
Mechanical speed limit switch: EVR100P





Mechanical speed limit switch: EVR100K

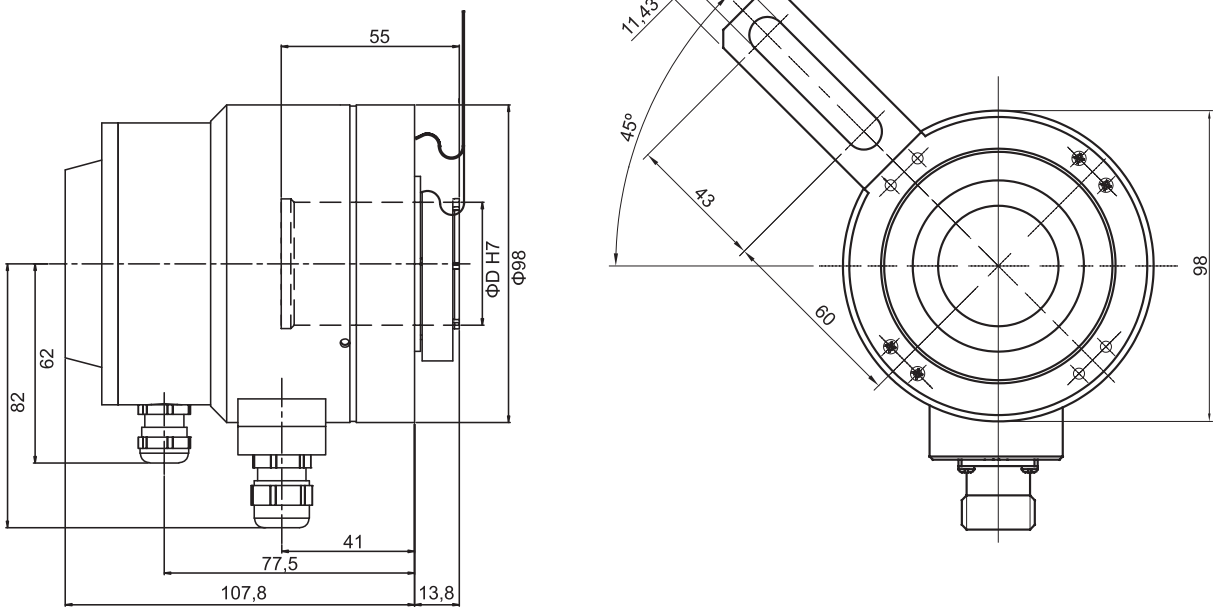




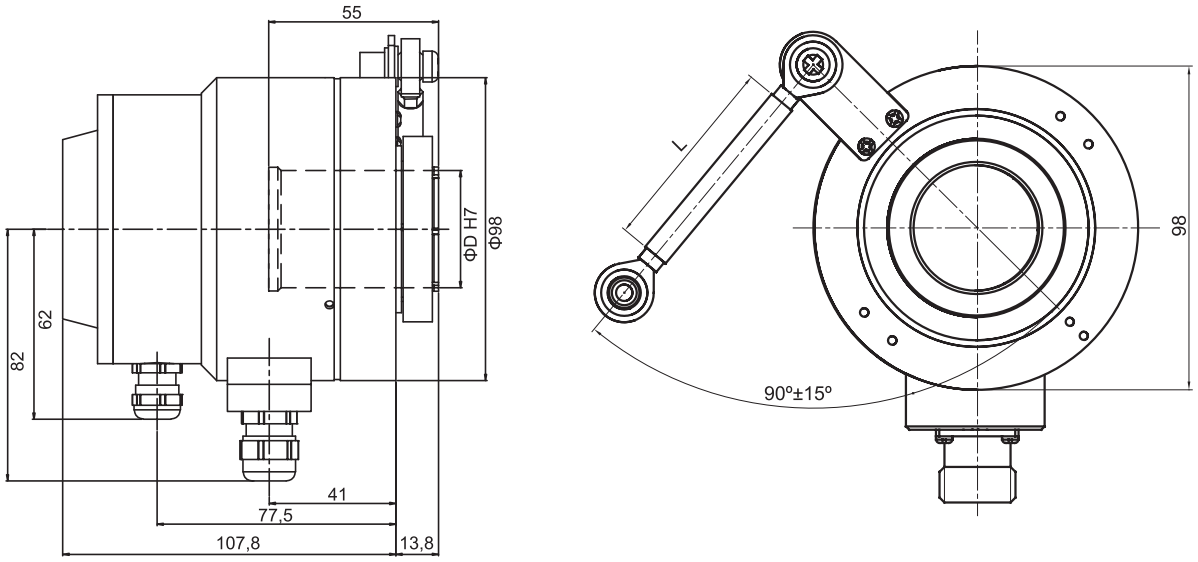
EVR100P

DIMENSIONS (mm)

Mechanical speed limit switch: EVR100H

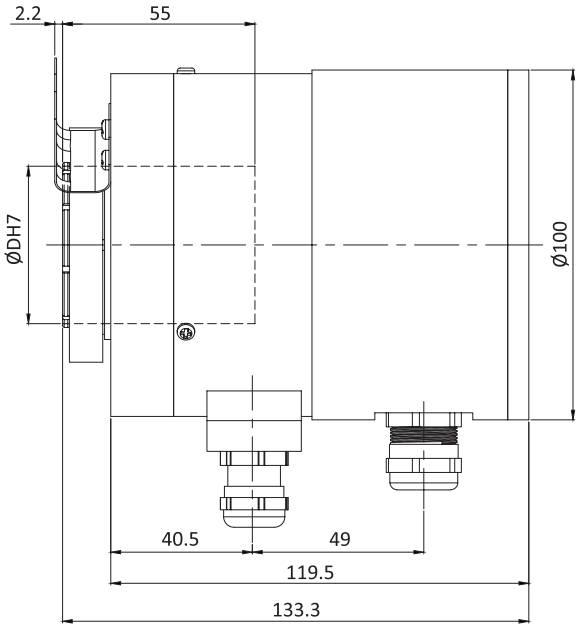


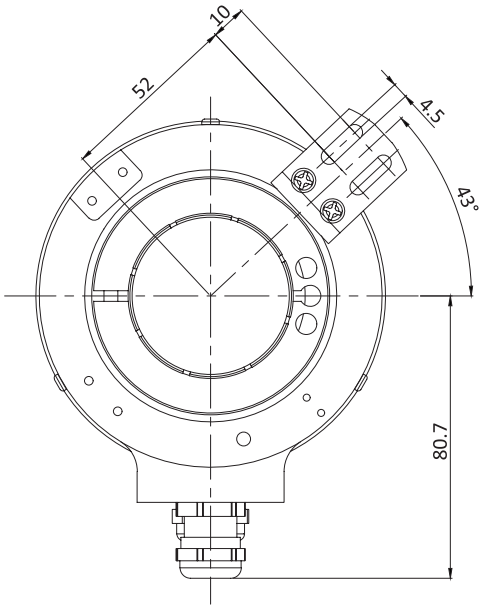
Mechanical speed limit switch: EVR100R



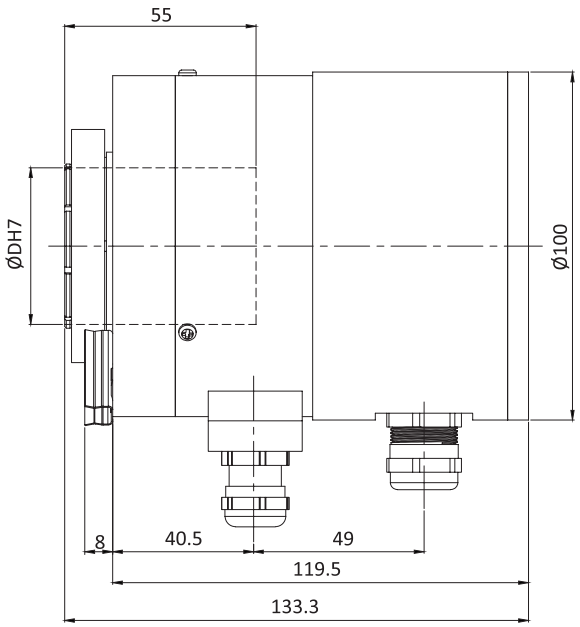
DIMENSIONS (mm)

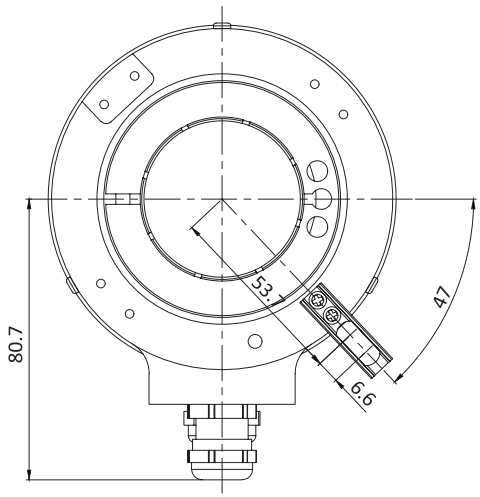
Electronic speed limit switch: EVR100P





Electronic speed limit switch: EVR100K

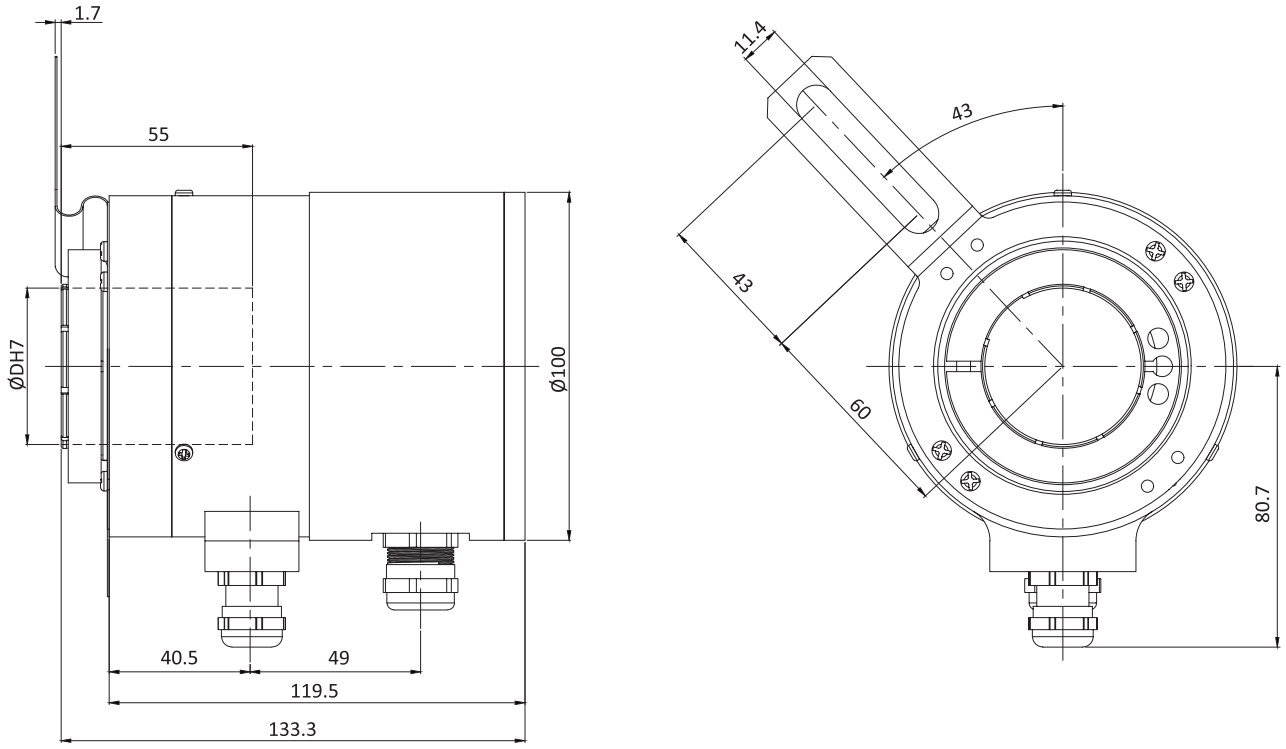




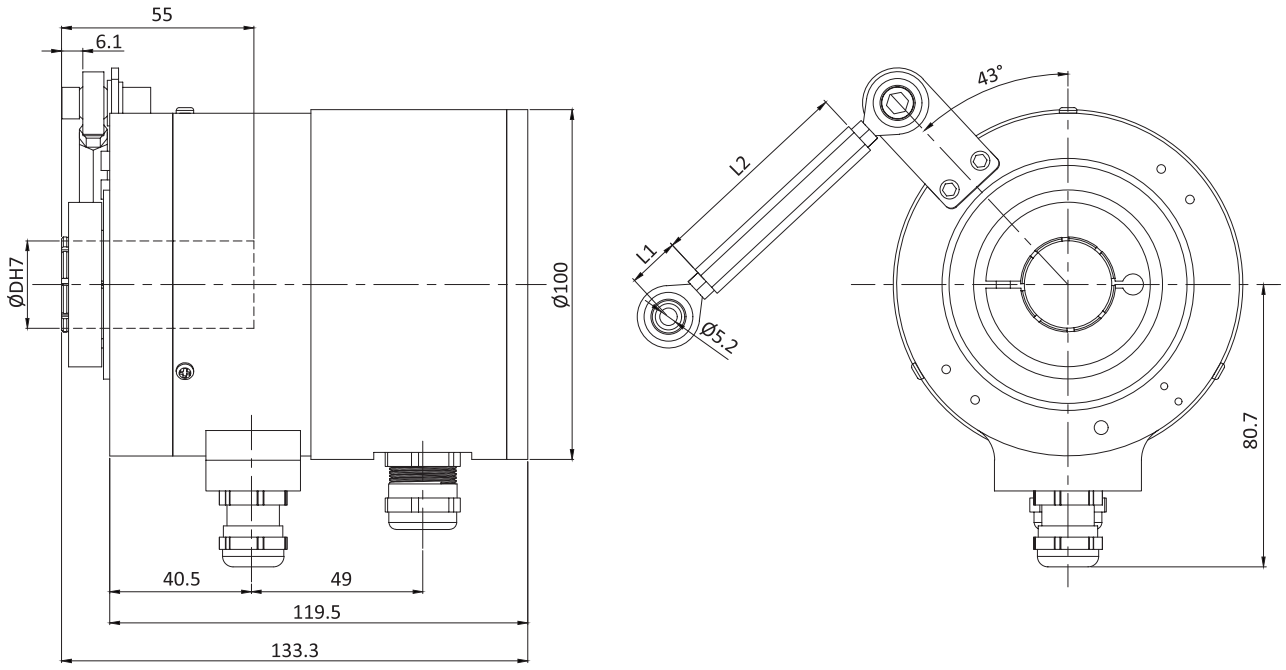
EVR100P

DIMENSIONS (mm)

Electronic speed limit switch: EVR100H



Electronic speed limit switch: EVR100R



EVR100P

ORDER CODE

EVR 100 P 30 - L5 P R - 1024 + 1500D

Shaft diameter

25 = Ø 25H7 mm
30 = Ø 30H7 mm
38 = Ø 38H7 mm
40 = Ø 40H7 mm
42 = Ø 42H7 mm
45 = Ø 45H7 mm

Outlets direction

R = Radial

Alarm setting

Mechanical speed limit switch:
Overspeed value
Overspeed switch range: 450 ... 2300 rpm
Electronic speed limit switch:
Overspeed value + D

Type of connection

P = 1.5 m

Resolution

Pulse/r: ≤ 2048

Note: The standard configuration for the swivel arm installation product is SN5A60.
If you order SN5A30, add "T" after the resolution.
If you order SN5A90, add "N" after the resolution.

Flange type

P = Hollow shaft with spring
K = Long torque support slot
R = Universal torque arm (SN5A60)
H = Tether arm large

Output & Supply voltage

L5 = RS422 (with inverted signal)	5 V DC
L6 = RS422 (with inverted signal)	10 ... 30 V DC
L4 = RS422 (with inverted signal)	5 ... 30 V DC
H6 = Push-pull HTL (with inverted signal)	10 ... 30 V DC
H4 = Push-pull HTL (with inverted signal)	5 ... 30 V DC
P6 = Push-pull HTL (without inverted signal)	10 ... 30 V DC
P4 = Push-pull HTL (without inverted signal)	5 ... 30 V DC

Housing diameter

100 = Housing diameter

Series

EVR = Heavydic series hollow shaft encoder with overspeed switch

Diameter	Lock ring	Screw
Ø 25	E41230036	M3×8
Ø 30	E41230041	M3×8
Ø 38	E41230042	M3×8
Ø 40	E41230038	M3×8
Ø 42	E41230049	M3×8
Ø 45	E41230039	M3×8

SALES AND SERVICE

Tianjin Elco Automation Co., Ltd
No. 12, 4th XEDA Branch Road
Xiqing Economic-Technological Development Area
Tianjin 300385, P.R. China
Office Phone: 022 23788282
E-Mail: info@elco.cn
www.elco-holding.com.cn

Elco Industrie Automation GmbH
Benzstrasse 7
71720 Oberstenfeld,
Deutschland
Office Phone: +49 7062 / 6599-260
E-Mail: info@elco-automation.de
www.elco-automation.de

Elco Automation LLC
1097 Highway 101 South, Suite D-3 Greer
South Carolina 29651, USA
Office Phone: +1 864-581-7431
E-Mail: infousa@elcoautomation.com
www.elcoautomation.com

Elco Industrial Automation Pvt Ltd.
No 80, 1st Main, 2nd Cross, Royal Enclave,
Sidedahalli, Nagasandra Bangalore 560073, India
Office Phone: +91-7259931777
E-Mail: info@elcoautomation.in
www.elcoautomation.com

Elco Automation Korea Ltd.
706, 17 Daehak 4-ro, Yeongtong-gu, Suwon-si,
Gyeonggi-do, Republic of Korea, 16226
Office Phone: +82-31-216-7890
E-Mail: sales@elcoautomation.co.kr
www.elcoautomation.com