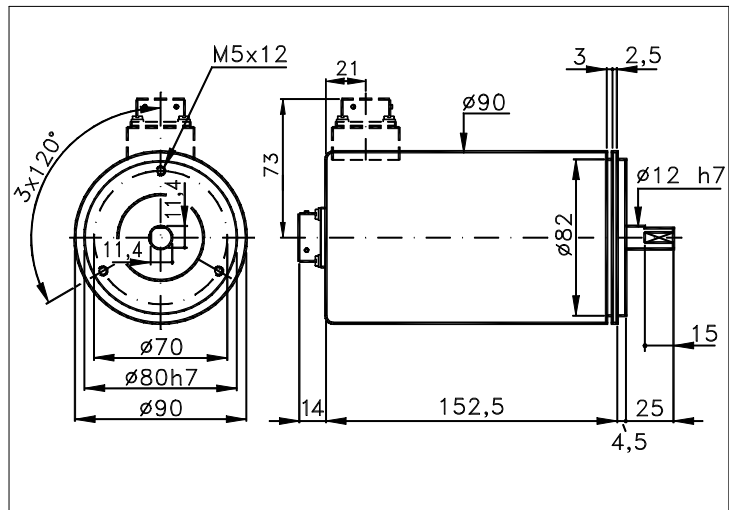


Measures without tolerance according to UNI ISO 2768-mk



TECHNICAL FEATURES AND POSSIBLE CONFIGURATIONS

- **Output codes**.....: Gray, Binary, BCD
- **Max resolut.** Gray, Bin.: 2²⁴ on 4096 rev.
BCD : 10⁶ on 1000 rev.
- **Pulses/rev.** Gray, Bin.: 16, 32, 64, 128, 256, 512,
1024, 2048, 4096. (*)
- **No. of rev.** Gray, Bin.: 16, 256, 4096.
BCD : 10, 100, 500, 1000. (*)
- **Power supply .VDC**.....: 5 V±5%, 8÷24 V, 18÷28 V
- **Max consumption**.....: 200÷500 mA accord. to bits (*)
- **Light source**.....: LED with >= 100000 h life
- **Optical sensors**.....: Phototransistors
- **Max operating freq**....: 50 kHz (*)
- **Operating temperature**..: 0 ÷ +70 °C (*)
- **Storage temperature**....: -30 ÷ +85 °C (*)
- **Up/down commutation**...: Ok
- **Output stages**.....: (-) NPN open coll.10mA(std)
(KK) NPN open coll.70mA + PTC
(KP) NPN open emitt.70mA+ PTC
(B) Push-pull 70mA + PTC
- **Pre-output interface**..: (-) Parallel (standard)
(S) Serial SSI (*)
- **Electronic options**....: (F)Led zero
(for parallel interf.) (L)Latch (2)
(M)Multiplexer (2)
- **Connections**Radial (R): CDH CM6 SM6 CL
Axial () SL CH (*)
For the description of connections see 'ORDERING CODE' on page 2
- **Base**.....: Anodized aluminium (*)
- **Cover**.....: Anodized aluminium (*)
- **Weight**.....: 1300 g
- **Shaft**.....: Stainless steel (*)
- **Max rad/axial load**....: 7 Kg
- **IP output side**.....: see 'CONNECTIONS' on page 2
- **IP lato albero**.....: std.64 sealed 65 low torq.-
- **Contin. max RPM**...(**): 4000 2000 -
- **Starting torque gcm**...: 50 90 -
- **Impact resistance**.....: 50 G (11 ms) (*)
- **Vibration resistance**...: 12 G (10 ÷ 2000 Hz) (*)
- **Ball bearings life**....: 1,5x10⁹ rev. (@ 1000 rev./m
with load of 1/4 maximum
allowed)
- **Burn-in @ +75 °C**.....: 72 h (*)

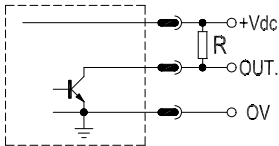
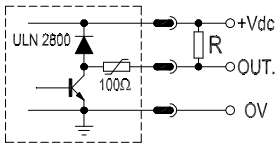
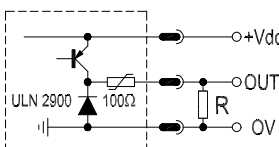
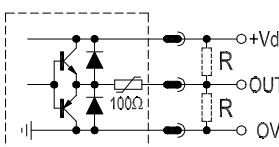
POSSIBLE OPTIONS

CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
A	High temperature	X	Custom options	G	Tropicalization
L	Low temperature	H	Different shaft Ø	Z	Seal.ball bearings
Y	Unbreakable disk	P	Compressed air attack		



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OUTPUT STAGES	INTERFACE	PARALLEL OPTIONS
» (-) NPN open coll.10mA(std) 	» (-) Parallel (standard) The angular value is present on the output connector in a 'parallel' form. The number of conductors is proportional to the resolution and the type of selected code. Any electronic output stage can be applied.	» (F)Led zero Designed for setting the encoder position with mechanical position. Led lights up at zero value with clockwise increasing code, at max. value with contrary clockwise.
» (KK) NPN open coll.70mA + PTC 		
» (KP) NPN open emitt.70mA+ PTC 	» (S) Serial SSI The data output (available only with Gray or Excess code) is controlled by an external clock. The angular position's value is first stored into the encoder and then transmitted outside starting from the MSB. The standard of transmission is RS422.	» (L)Latch When Latch input is set to 0 Vdc the outputs at Gray code disc level are 'frozen'; in such a way detections are carried out in stable conditions. For this reason Latch input is standard for Binary and BCD codes.
» (B) Push-pull 70mA + PTC 		» (M)Multiplexer The outputs must be enabled by an external 'enable' signal; this method provides the connection in parallel of several encoders on a single bus. The number of conductors is proportional to the resolution and to the type of selected code.

ORDERING CODE

Possible shaft Ø	(1) 10 (BCD), 16 (Gray/Bin) (2) 100 (BCD), 256 (Gray/Bin) (3) 1000(BCD), 4096(Gray/Bin)	() (CM6) Conn.32 pin PT02A18-32P IP65 (SM6) Conn.32 pin PT02E18-32P IP66 () () (CL) Conn.10 pin MS310A18-1P IP65 (SL) Conn.10 pin MS310R18-1P IP66 (CH) Conn. 12 pin Eml 121 IP67 (CDH) Conn.37 pin DB37P IP63						
(n) Ø n upon req (8) Ø 8 (10) Ø 10 (127) Ø 12,7 () ()	(-) Parallel (standard) (S) Serial SSI							
	(G) Gray (B) Binary (D) BCD ()	(-) NPN open coll.10mA(std) (KK) NPN open coll.70mA + PTC (KP) NPN open emitt.70mA+ PTC (B) Push-pull 70mA + PTC						
		only for parallel interface						
MODEL	No OF REVOL.	CODE	STEP PER REVOLUTION	POWER SUPPLY	OUTPUT STAGES	INTERFACE	CONNECT.	OUTPUT
A MM90	2	G	256	5	KK	- L	CM6	R
OPTIONS			[*]	(5) 5 V ± 5% (1828) 18 ÷ 28 V (824) 8 ÷ 24 V (X) Upon requ.		OPTIONS parallel interface (M) Multiplexer (F) Led zero (L) Latch		Axial () Radial (R)
(A) High temperature (L) Low temperature (Y) Unbreakable disk (X) Custom options (H) Different shaft Ø (P) Compressed air attack (G) Tropicalization (Z) Seal.ball bearings ()		Gray, Bin. 16, 32, 64, 128, 256, 512, 1024, 2048, 4096. BCD 10, 100, 500, 1000.						
Product manufactured according to ISO UNI EN 9001, supplied with CHECKING and CONFORMITY declaration with CE mark and with TWO (2) YEARS WARRANTY starting from delivery date.								

[*] Other resolutions on Customer's requirement

ELCIS company has the right to make any changing without previous notice.

data sheet IM 006 E00 page: 04.MM 90 2/2



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