

# ROTAPULS

Incremental encoders

series

ICS



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## ENVIRONMENTAL SPECIFICATIONS

|                              |                                                             |
|------------------------------|-------------------------------------------------------------|
| Shock:                       | 100 g, 6 ms (acc. to MIL STD 202F)                          |
| Vibrations:                  | 10 g, 5-2000 Hz (acc. to MIL STD 202F)                      |
| Operating temperature range: | -20°C +70°C (-4°F +158°F)                                   |
| Storage temperature range:   | -20°C +80°C (-4°F +176°F)<br>(98% R.H.without condensation) |
| Protection:                  | IP65                                                        |

## MECHANICAL SPECIFICATIONS

|                                   |                                                                                          |
|-----------------------------------|------------------------------------------------------------------------------------------|
| Dimensions:                       | see drawing                                                                              |
| Shaft:                            | Ø 12 mm                                                                                  |
| Shaft loading (axial and radial): | 100 N max.                                                                               |
| Shaft rotational speed:           | 6000 rpm max.                                                                            |
| Starting torque at 20°C:          | ≤ 3 Ncm (typical)                                                                        |
| Moment of inertia:                | ~250 gcm <sup>2</sup>                                                                    |
| Bearings life:                    | 400x10 <sup>6</sup> rev. min.<br>(10 <sup>9</sup> rev. min. with 20 N shaft loading max) |
| Weight:                           | ~ 1,2 kg (42,3 oz)                                                                       |

## ELECTRICAL SPECIFICATIONS

|                                             |                                                                                                                                                                                                                                                               |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STD pulse rate<br>(other PPR upon request): | 2-4-5-6-10-12-15-16-18-20-24-25-30-35-36-39<br>40-45-50-60-64-70-80-90-100-120-122-125-127<br>142-150-180-200-216-236-240-250-254-256<br>267-270-300-314-360-375-400-410-433-435<br>471-500-512-600-625-628-635-720-750-784<br>800-875-900-946-1000-1024-1068 |
| Pulses/mm:                                  | to be result of pinion and rack ratio                                                                                                                                                                                                                         |
| Power supply:                               | +5V±5%, +10V +30V,+5V +30V                                                                                                                                                                                                                                    |
| Output circuits:                            | NPN o.c., PNP o.c., Push-Pull, Line Driver, PP/LD                                                                                                                                                                                                             |
| Output current (per channel):               | 40 mA max.                                                                                                                                                                                                                                                    |
| Output frequency:                           | 60 kHz max.                                                                                                                                                                                                                                                   |
| Input current:                              | 70 mA max.                                                                                                                                                                                                                                                    |
| Protection:                                 | against inversion of polarity (except +5V version)<br>outputs are protected against short-circuit (except Line Driver version)                                                                                                                                |
| Optoelectronic life:                        | 100.000 hrs min.                                                                                                                                                                                                                                              |

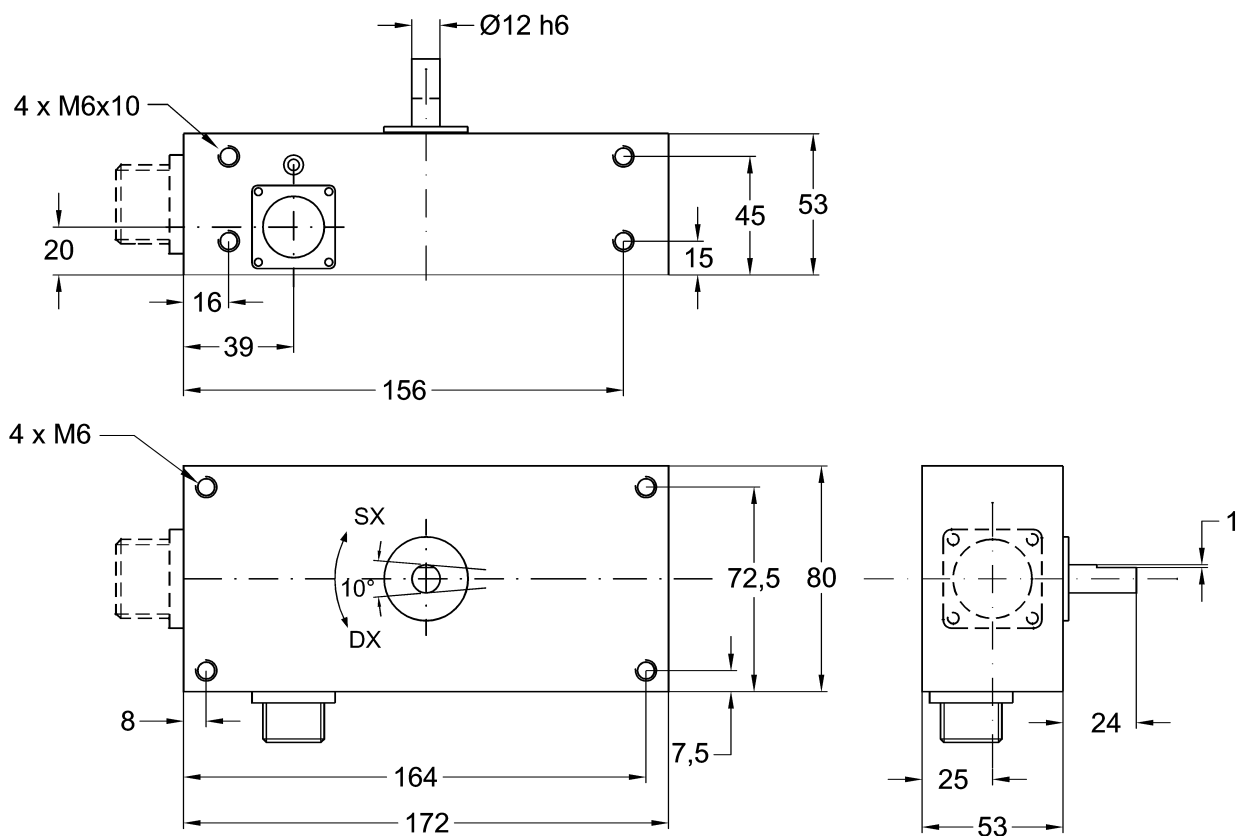
## MATERIALS

|               |                               |
|---------------|-------------------------------|
| Housing:      | non corroding                 |
| Bearings:     | ABEC 5                        |
| Shaft:        | stainless steel, non-magnetic |
| Light source: | GaAl diodes                   |

## ACCESSORIES

|           |                             |
|-----------|-----------------------------|
| E7MLS:    | 7 pin MIL mating connector  |
| E10MLS:   | 10 pin MIL mating connector |
| LKM-1225: | Z40 pinion                  |
| LKM-1224: | M0,79 rack                  |

Specifications subject to changes without prior notice



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#### ORDERING CODE

ADDITIONAL CODE (indicate only if necessary)

| ORDERING CODE                          |                                           | ADDITIONAL CODE (indicate only if necessary) |   |
|----------------------------------------|-------------------------------------------|----------------------------------------------|---|
| XXXX - X - XXXX                        | X                                         | X                                            | X |
| SERIES                                 |                                           | SHAFT DIAMETER                               |   |
| ICS                                    |                                           | F 12 mm                                      |   |
| OUTPUT CIRCUITS                        |                                           |                                              |   |
| NPN o.c.                               | N                                         |                                              |   |
| PNP o.c.                               | P                                         |                                              |   |
| Push-Pull                              | Y                                         |                                              |   |
| Line Driver AD26LS31 or eqv.           | L                                         |                                              |   |
| PP/LD universal circuit                | H                                         |                                              |   |
| PULSE RATE (PPR)                       |                                           |                                              |   |
| See electrical specifications          |                                           |                                              |   |
| OUTPUT SIGNALS CONFIGURATION           |                                           |                                              |   |
| Bidirectional                          | B                                         |                                              |   |
| Bidirectional with index pulse         | Z                                         |                                              |   |
| SUPPLY VOLTAGE VS OUTPUT CIRCUIT       |                                           |                                              |   |
| +5V±5% (L output circuit)              | 1                                         |                                              |   |
| +10V÷+30V (N, P and Y output circuits) | 2                                         |                                              |   |
| +5V÷+30V (PP/LD universal circuit)     | 4                                         |                                              |   |
| ELECTRICAL CONNECTIONS                 |                                           |                                              |   |
| N Normal output                        | D 7 pin IP65 MIL connector                |                                              |   |
| C Complementary outputs                | P 10 pin IP65 MIL connector (only radial) |                                              |   |
| see on page 59-60                      |                                           |                                              |   |
| AT REST POSITION                       |                                           |                                              |   |
| DX Right (see drawing)                 |                                           |                                              |   |
| SX Left (see drawing)                  |                                           |                                              |   |
| R Side mount connector                 |                                           |                                              |   |