

# ROTAPULS

Incremental encoders

series

**I58 • I58S**



I58



I58S

## 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:                  | IP64                                                                             |
| Options:                     | • Operating temperature range: -40°C +100°C (-40°F, +212°F)<br>• IP65 Protection |

## MECHANICAL SPECIFICATIONS

|                                   |                               |
|-----------------------------------|-------------------------------|
| Dimensions:                       | see drawing                   |
| Shaft:                            | Ø 6, 8, 9.52, 10, 12 mm       |
| Shaft loading (axial and radial): | 20 N max I58<br>40 N max I58S |
| Shaft rotational speed:           | 6000 rpm max.                 |
| Starting torque at 20°C:          | ≤ 1 Ncm (typical)             |
| Moment of inertia:                | ~15 gcm <sup>2</sup>          |
| Bearings life:                    | 10 <sup>9</sup> rev. min.     |
| Weight:                           | ~ 0,3 kg (10,6 oz)            |

## ELECTRICAL SPECIFICATIONS

|                               |                                                                                                                                                                                                                                                                                                                    |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STD pulse rate                | 2-4-5-6-10-12-15-16-18-20-24-25-30-35-36-39                                                                                                                                                                                                                                                                        |
| (other PPR upon request):     | 40-45-50-60-64-70-80-90-100-120-122<br>125-127-142-150-180-200-216-236-240<br>250-254-256-267-270-300-314-360-375<br>400-410-433-435-471-500-512-600-625<br>628-635-720-750-784-800-875-900-946<br>1000-1068-1099-1200-1250-1270-1440-1500<br>1800-2000-2250-2400-2500-3000-3600-4000<br>4096-5000-6000-9000-10000 |
| 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:             | 100 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.                                                                                                                                                                                                                                                                                                   |
| Option:                       | • Output frequency up to 300 kHz max.                                                                                                                                                                                                                                                                              |

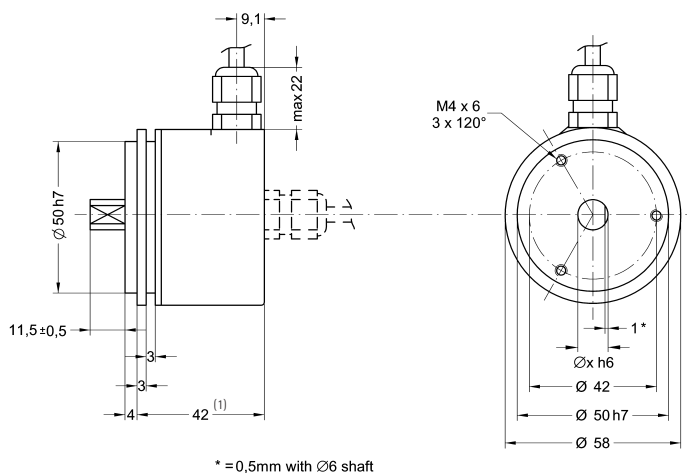
## MATERIALS

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

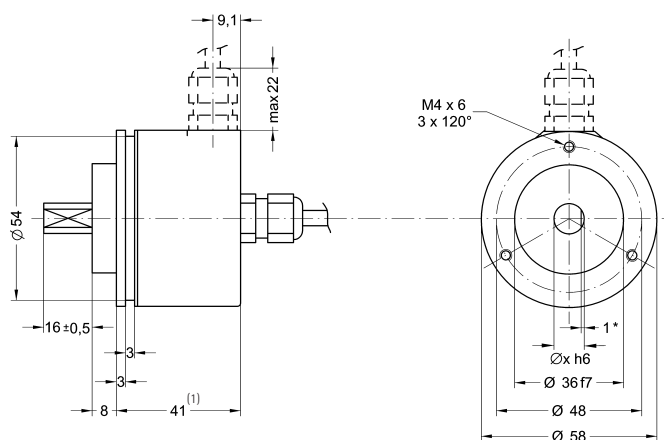
## ACCESSORIES

|           |                                |
|-----------|--------------------------------|
| E7MLS:    | 7 pin MIL mating connector     |
| E10MLS:   | 10 pin MIL mating connector    |
| T3475001: | 7 pin TUCHEL mating connector  |
| T3635000: | 12 pin TUCHEL mating connector |
| EPFL 121: | 12 pin CONNEL mating connector |
| PAN/PGF:  | flexible couplings             |
| LKM-386:  | fixing clamps                  |

Specifications subject to changes without prior notice



I58



I58S

(1) Mechanical dimensions with connector output see page 64

\* = 0,5mm with Ø6 shaft

## ORDERING CODE

## ADDITIONAL CODE (indicate only if necessary)

|                              |                                                                                                          |
|------------------------------|----------------------------------------------------------------------------------------------------------|
| XXXX - X - XXXX              | X                                                                                                        |
| SERIES                       | I58 - I58S                                                                                               |
| OUTPUT CIRCUITS              | NPN o.c. N<br>PNP o.c. P<br>Push-Pull Y<br>Line Driver AD26LS31 or equiv. L<br>PP/LD universal circuit H |
| PULSE RATE (PPR)             | See electrical specifications                                                                            |
| OUTPUT SIGNALS CONFIGURATION | Bidirectional B<br>Bidirectional with index pulse Z                                                      |

|                                  |                                                                                                                                                                                                                        |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X X X X                          | SHAFT DIAMETER                                                                                                                                                                                                         |
|                                  | 6 6 mm<br>8 8 mm<br>9.52 9.52 mm / 3/8"<br>10 10 mm<br>12 12 mm                                                                                                                                                        |
| ELECTRICAL CONNECTIONS           | F 5 wires cable, 1m. (3.3 ft)<br>C 7 pin TUCHEL connector<br>D 7 pin IP65 MIL connector<br>U 8 wires cable, 1 meter (3.3 ft)<br>V 12 pin TUCHEL connector<br>P 10 pin IP65 MIL connector<br>Z 12 pin CONNELL connector |
| SUPPLY VOLTAGE VS OUTPUT CIRCUIT | +5V ± 5% (L output circuit) 1<br>+10V ÷ +30V (N, P and Y output circuits) 2<br>+5V ÷ +30V (PP/LD universal circuit) 4                                                                                                  |

|           |                                                                                       |
|-----------|---------------------------------------------------------------------------------------|
| X X X X X | Cable length on request<br>Lx Ex.: L4 = 4 meters (13.2 ft)<br>L7 = 7 meters (23.0 ft) |
| K         | Operating temperature range:<br>-40°C + 100°C (-40°F + 212°F)                         |
| W         | Output frequency up to 300 kHz                                                        |
| P         | IP65 Protection                                                                       |
| R         | Side mount cable or connector                                                         |