

# XCC1510PSM50Y

Opto-electronic rotary encoders XCC,  
incremental encoder Ø 58, solid shaft 10 mm,  
5000...80 K points, push pull



## Main

|                              |                                     |
|------------------------------|-------------------------------------|
| Range of product             | OsiSense XCC                        |
| Encoder type                 | Incremental encoder                 |
| Encoder name                 | XCC                                 |
| Product specific application | -                                   |
| Diameter                     | 58 mm                               |
| Complementary function       | Parameterable                       |
| Shaft diameter               | 10 mm                               |
| Shaft type                   | Solid shaft                         |
| Resolution                   | 5000...80000 points                 |
| Output stage                 | Type Y                              |
| Type of output stage         | Driver push-pull                    |
| Electrical connection        | 1 male connector M23 radial 12 pins |
| [Us] rated supply voltage    | 5...30 V DC                         |
| Enclosure material           | Zamak                               |

## Complementary

|                          |                                                                              |
|--------------------------|------------------------------------------------------------------------------|
| Residual ripple          | 500 mV                                                                       |
| Maximum revolution speed | 9000 rpm                                                                     |
| Shaft moment of inertia  | 10 g.cm <sup>2</sup>                                                         |
| Torque value             | 0.004 N.m                                                                    |
| Maximum load             | 10 daN radial<br>5 daN axial                                                 |
| Output frequency         | 300 kHz                                                                      |
| Number of channels       | 3                                                                            |
| Current consumption      | 0...75 mA no-load                                                            |
| Protection type          | Reverse polarity protection<br>Short-circuit protection                      |
| Maximum output current   | 40 mA                                                                        |
| Output level             | Low level: 0.5 V maximum 20 mA<br>High level: V supply - 2.5 V minimum 20 mA |
| Surge withstand          | 1 kV, level 2 conforming to IEC 61000-4-5                                    |
| Base material            | Aluminium                                                                    |
| Shaft material           | Stainless steel                                                              |
| Type of ball bearings    | 6000ZZ1                                                                      |
| Net weight               | 0.465 kg                                                                     |

## Environment

|                                       |                                                                                                                          |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Marking                               | CE                                                                                                                       |
| Ambient air temperature for operation | -30...100 °C                                                                                                             |
| Ambient air temperature for storage   | -30...85 °C                                                                                                              |
| IP degree of protection               | IP65 conforming to IEC 60529                                                                                             |
| Vibration resistance                  | 10 gn (f= 55...2000 Hz) conforming to IEC 60068-2-6                                                                      |
| Shock resistance                      | 30 gn for 11 ms conforming to IEC 60068-2-27                                                                             |
| Resistance to electrostatic discharge | 4 KV (contact discharge) level 3 conforming to IEC 61000-4-2<br>8 kV (air discharge) level 3 conforming to IEC 61000-4-2 |

|                                      |                                                                                                               |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Resistance to electromagnetic fields | 10 V/m level 3 conforming to IEC 61000-4-3                                                                    |
| Resistance to fast transients        | 1 kV signal ports level 3 conforming to IEC 61000-4-4<br>2 kV power ports level 3 conforming to IEC 61000-4-4 |

### Packing Units

|                              |     |
|------------------------------|-----|
| Unit Type of Package 1       | PCE |
| Number of Units in Package 1 | 1   |

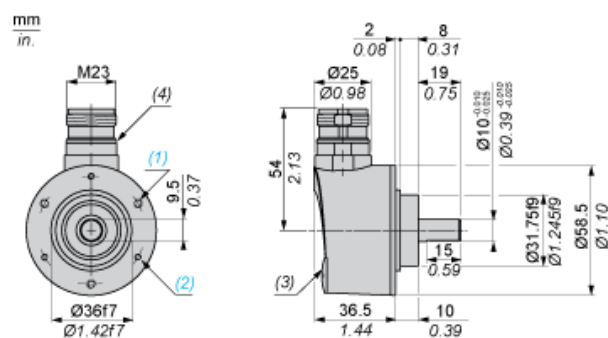
### Offer Sustainability

|                                            |                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxic heavy metal free                     | Yes                                                                                                                                                                                                                                                                                                                                                                               |
| California proposition 65                  | WARNING: This product can expose you to chemicals including: Diisononyl phthalate (DINP), which is known to the State of California to cause cancer, and Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |
| For all Reach Rohs enquiries contact us at | <a href="mailto:sustainability@tesensors.com">sustainability@tesensors.com</a>                                                                                                                                                                                                                                                                                                    |

### Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

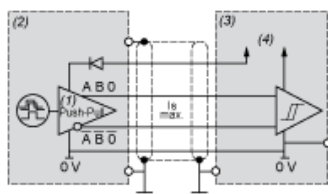
## Dimensions



- (1) 3 M4 holes at 120° on 48 PCD, depth: 8 mm
- (2) 3 M3 holes at 120° on 48 PCD, depth: 8 mm
- (3) Blanking plug
- (4) Nitrile seal

## Wiring Diagram

### Type Y Output Stage

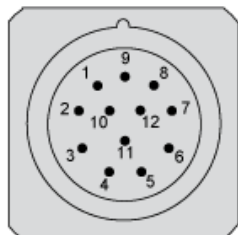


- (1) RS 422 compatible on 5 V supply
- (2) Encoder
- (3) Processing
- (4) Supply 5 V/30 V

## Wiring Diagram

### M23, 12-pin Connector Connections

Male Connector on Encoder

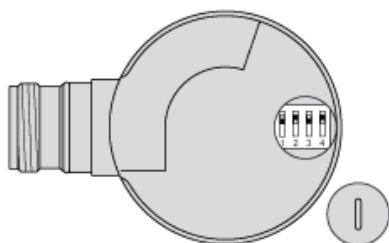


| Pin number    | 1              | 2  | 3 | 4              | 5 | 6              | 7 | 8 | 9 | 10  | 11  | 12 |
|---------------|----------------|----|---|----------------|---|----------------|---|---|---|-----|-----|----|
| Signal Supply | A <sup>-</sup> | +V | 0 | 0 <sup>-</sup> | B | B <sup>-</sup> | R | A | R | 0 V | 0 V | +V |

R = reserved, do not connect

## Wiring Diagram

### Resolutions for Parameterable Ø 58 mm Encoders



| Interpolation factor |       | Basic resolution |      |      |      |        | Position of dip switches |     |     |    |
|----------------------|-------|------------------|------|------|------|--------|--------------------------|-----|-----|----|
| Counting             | Speed | 256              | 360  | 500  | 1024 | 5000   | 1                        | 2   | 3   | 4  |
| x1                   | x1    | 256              | 360  | 500  | 1024 | 5000   | Off                      | On  | Off | On |
| x2                   | x2    | 512              | 720  | 1000 | 2048 | 10,000 | On                       | On  | Off | On |
| x3                   | x3    | 768              | 1080 | 1500 | 3072 | 15,000 | On                       | Off | Off | On |
| x4                   | x4    | 1024             | 1440 | 2000 | 4096 | 20,000 | Off                      | On  | On  | On |
| x5                   | -     | 1280             | 1800 | 2500 | 5120 | 25,000 | On                       | On  | On  | On |
| x8                   | -     | 2048             | 2880 | 4000 | 8192 | 40,000 | On                       | Off | On  | On |

| Interpolation factor |   | Basic resolution |      |      |        |        | Position of dip switches |     |    |     |
|----------------------|---|------------------|------|------|--------|--------|--------------------------|-----|----|-----|
| x10                  | - | 2560             | 3600 | 5000 | 10,240 | 50,000 | Off                      | On  | On | Off |
| x12                  | - | 3072             | 4320 | 6000 | 12,288 | 60,000 | On                       | On  | On | Off |
| x16                  | - | 4096             | 5760 | 8000 | 16,384 | 80,000 | On                       | Off | On | Off |