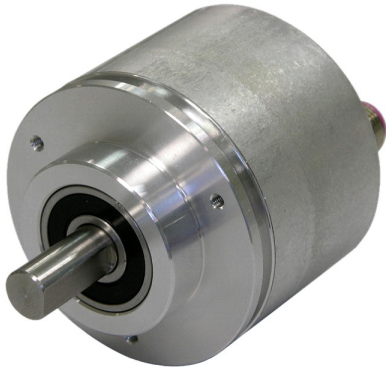


# CMV58M\*4096/4096 PB 36ZB10FL

2x 5 pin M12



Stock photo



Order-#: CMV58M-00003  
20.2.2020 / 010102005801020201

Advantages  
\_ New series available

## Technical data for CMV58M-00003

|                    |                           |
|--------------------|---------------------------|
| NO.OF STEPS/REV    | 4.096,000                 |
| NO. OF REVOLUTIONS | 4.096,000                 |
| INTERFACE          | PROFIBUS DP               |
| CODE               | PROGRAMABLE               |
| OUTPUT LEVEL       | RS485                     |
| SUPPLY VOLTAGE     | 11-27V                    |
| CONNECTOR TYPE     | 1X4P.M8-CONNECTOR         |
|                    | 1X5P.M12-FEMALE / B-CODED |
|                    | 1X5P.M12-MALE / B-CODED   |
| CONNECTOR-POSITION | AXIAL                     |
| MATING PLUG        | NO                        |
| FLANGE TYPE        | ZB36 3XM3+3XM4            |
| SHAFT TYPE         | 10FL/19,5                 |
| TEMPERATURE RANGE  | 0-60°C                    |
| PROTECTION Class   | IP65                      |
| OPTIONS ENC        | 12MBAUD                   |
|                    | PNO-PROFILE CLASS.2       |
| PINOUT NO.         | TR-ECE-TI-DGB-0111        |
| DRAWING NO.        | 04-CMV58M-M0002           |
| VERSIONNO          | 000                       |

Subject to change.

# CMV58M\*4096/4096 PB 36ZB10FL

2x 5 pin M12

Order-#: CMV58M-00003  
20.2.2020 / 010102005801020201

## Technical data for CMV58M-00003 continuation

|                  |           |
|------------------|-----------|
| FIRMWARE NO      | 437A6B    |
| DOCUMENTATION NO | DOKUMENTE |

## General data for K-CMV58-PB-1

|                                |                          |
|--------------------------------|--------------------------|
| Nominal voltage                |                          |
| - Specific value               | 24 VDC                   |
| - Limit values, min/max        | 11/27 VDC                |
| Nominal current, typically     |                          |
| - Specific value               | 120 mA                   |
| - Condition                    | unloaded                 |
| Supply                         |                          |
| - In case of UL / CSA approval | according to NEC Class 2 |
| Device design                  |                          |
| - Type                         | Single-/Multi-Turn       |
| Total resolution               | <= 24 Bit                |
| Number of steps per revolution | <= 4096                  |
| Number of revolutions          | <= 4096                  |
| Accuracy                       | ± 1.0 °                  |
| PROFIBUS - Interface           |                          |
| - PROFIBUS-DP V0               | IEC 61158, IEC 61784     |
| - PNO Encoder-Profile          | Class 1 and 2            |
| Transmission rate              |                          |
| - Specific value               | 9.6... 12000 kbit/s      |
| Cycle time                     | 250 µs                   |
| Parameter/Function, changeable | Resolution               |
|                                | Output code              |
|                                | Limit switch             |
|                                | Preset parameter         |
|                                | Adjustment - Parameter   |
|                                | Counting direction       |
|                                | Velocity parameter       |
| Type of parametrization        | programmable             |
| Programming - Tool             | Fieldbus-Device          |
| External inputs                |                          |
| - Preset                       | electronic adjustment    |
| - Logic level                  | "0" < +2V, "1" = Supply  |
| Maximum Speed, mechanically    | <= 12000 1/min           |

Subject to change.

# CMV58M\*4096/4096 PB 36ZB10FL

2x 5 pin M12

Order-#: CMV58M-00003  
20.2.2020 / 010102005801020201

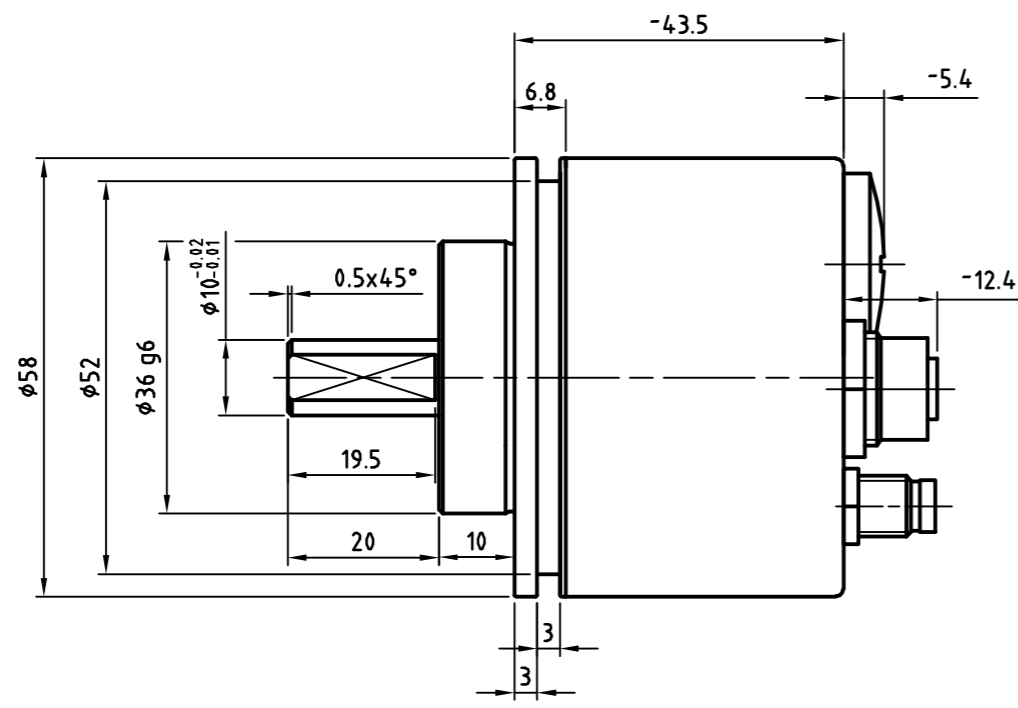
## General data for K-CMV58-PB-1 continuation

|                               |                             |
|-------------------------------|-----------------------------|
| Shaft load, axial/radial      | <= 50 N, <= 100 N           |
| Bearing life time             | >= 3.9E+10 revolutions      |
| Bearing life time - Parameter |                             |
| - Speed                       | 6000 1/min                  |
| - Operating temperature       | 60 °C                       |
| - Shaft load, axial/radial    | = 60 %                      |
| Point of origin, shaft load   | Mounting flange + 10 mm     |
| Shaft type                    |                             |
| - Shaft diameter [mm]         | 6                           |
| - Shaft diameter [mm]         | 8                           |
| - Shaft diameter [mm]         | 10                          |
| - Shaft diameter [mm]         | 12                          |
| - Shaft diameter ["]          | 3/8                         |
| Angular acceleration          | <= 10E+4 rad/s <sup>2</sup> |
| Moment of inertia, typically  | 1.3E-6 kg m <sup>2</sup>    |
| Start-up torque, 20 °C        | 2 Ncm                       |
| Mass, typically               | 0.3 kg                      |

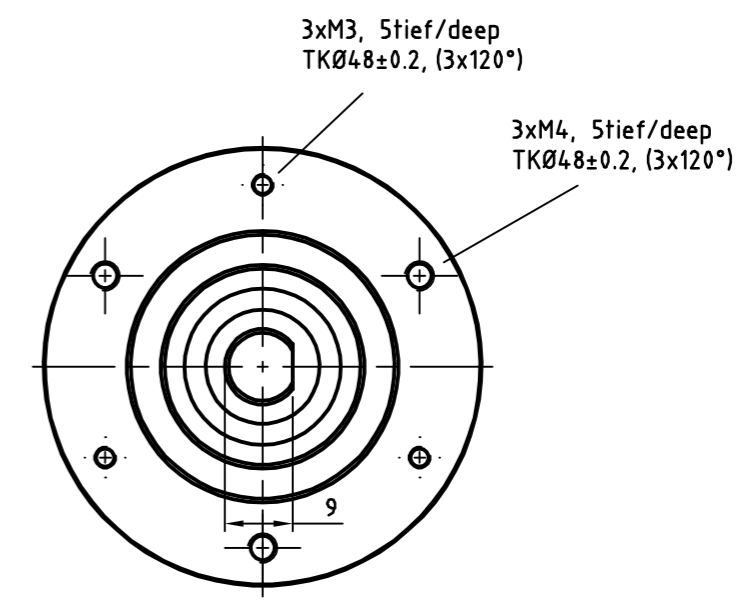
## Environmental data

|                          |                          |
|--------------------------|--------------------------|
| Vibration                |                          |
| - Specific value         | <= 100 m/s <sup>2</sup>  |
| - Sine                   | 50...2000 Hz             |
| Shock                    |                          |
| - Specific value         | <= 1000 m/s <sup>2</sup> |
| - Half sine              | 11 ms                    |
| Immunity to disturbance  | DIN EN 61000-6-2         |
| Transient emissions      | DIN EN 61000-6-3         |
| Working temperature      |                          |
| - Standard               | 0...+60 °C               |
| - Optional               | -20...+70 °C;            |
| Storage temperature, dry | -30...+85 °C             |
| Relative humidity        | 98 %, non condensing     |
| Protection class         |                          |
| - Standard               | IP65                     |

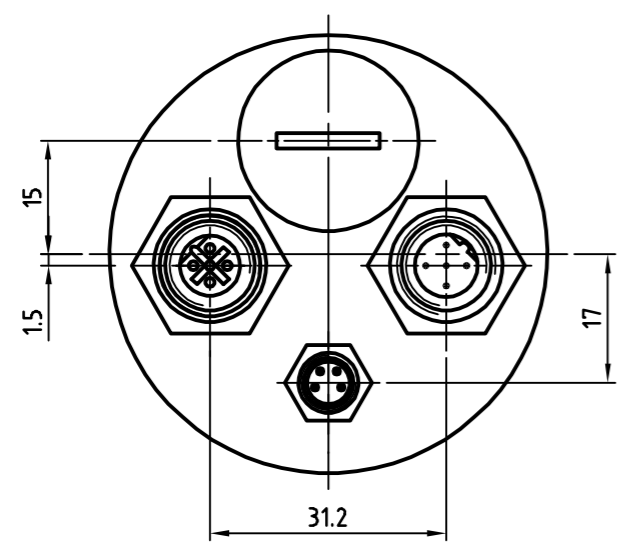
Subject to change.



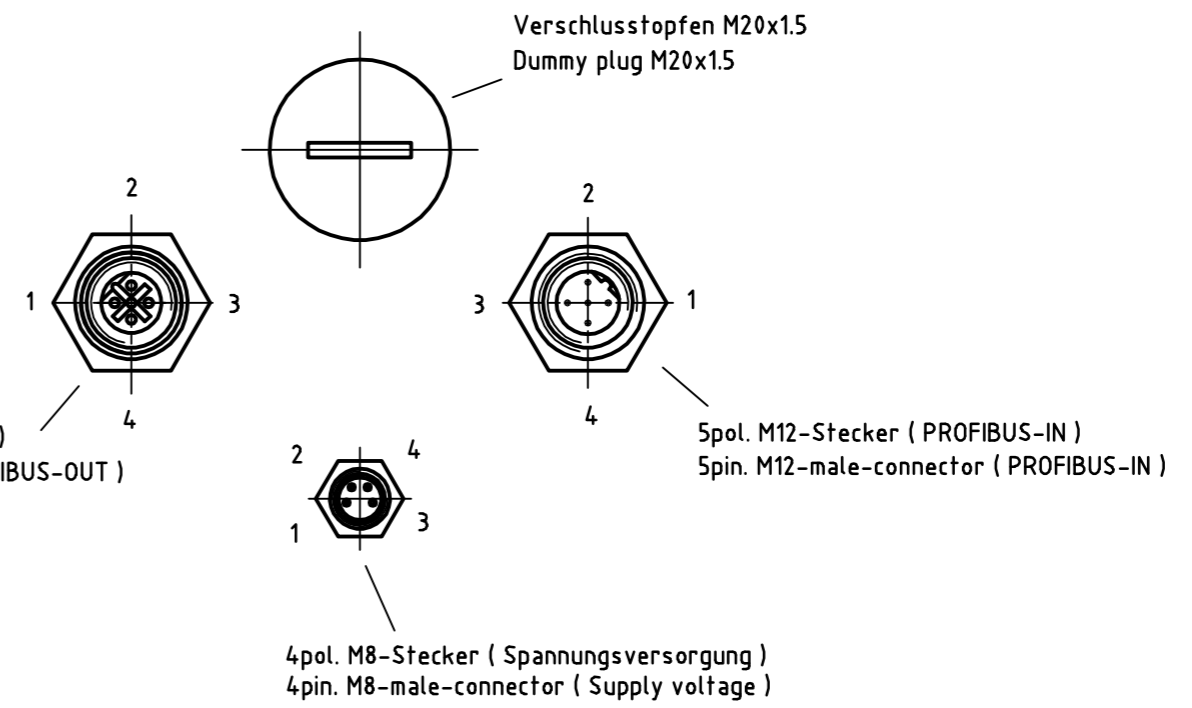
Ansicht U  
View U



Ansicht U  
View U



Ansicht U  
View U



| Mechanische Kenndaten für Encoder mit Vollwelle:                              | Mechanical data for shaft encoder   |  |
|---|---|--|
| Mechanisch zulässige Drehzahl   | Maximum rotational speed  | 12.000 min <sup>-1</sup>                               |
| Zul. Belastung der Wellenlagerung   | Maximum load on shaft   | 20N radial /<br>10N axial am Wellenende (end of shaft) |
| Min. Lagerlebensdauer<br>(Drehzahl 6.000 min <sup>-1</sup> , Temperatur 60°C) | Min. lifetime on bearings<br>(speed 6.000 min <sup>-1</sup> , temperature 60°C) | min. 3,9x10 <sup>10</sup> Umdr. (revol.)               |
| Masse (ohne Kabel)  | Weight (without cable)  | ca. 0,3kg  |
| Zulässige Winkelbeschleunigung  | Maximum angular acceleration  | max. 10 <sup>4</sup> rad/s <sup>2</sup>                |
| Trägheitsmoment   | Momentum of inertia   | ca. 1,3x10 <sup>-6</sup> kgm <sup>2</sup>              |
| Anlaufdrehmoment bei +20°C  | Startup momentum at 20°C  | ca. 2 Ncm  |
| Schutzart DIN40050/ICE 529  | Protection ratings DIN 40050/ICE 529  | IP65   |
| Zul. Vibrationsbelastung nach DIN IEC 68-2-6<br>(Sinus f= 50Hz...2kHz)        | Vibration DIN IEC 68-2-6<br>(sinusoidal f= 50Hz...2kHz)                         | max. 100 m/s <sup>2</sup> (10g)                        |
| Zul. Stossbelastung nach DIN IEC 68-2-27<br>(Halbsinus, Dauer t= 11ms)        | Shock DIN IEC 68-2-27<br>(half sinusoidal, time t= 11ms)                        | max. 1.000 m/s <sup>2</sup> (100g)                     |

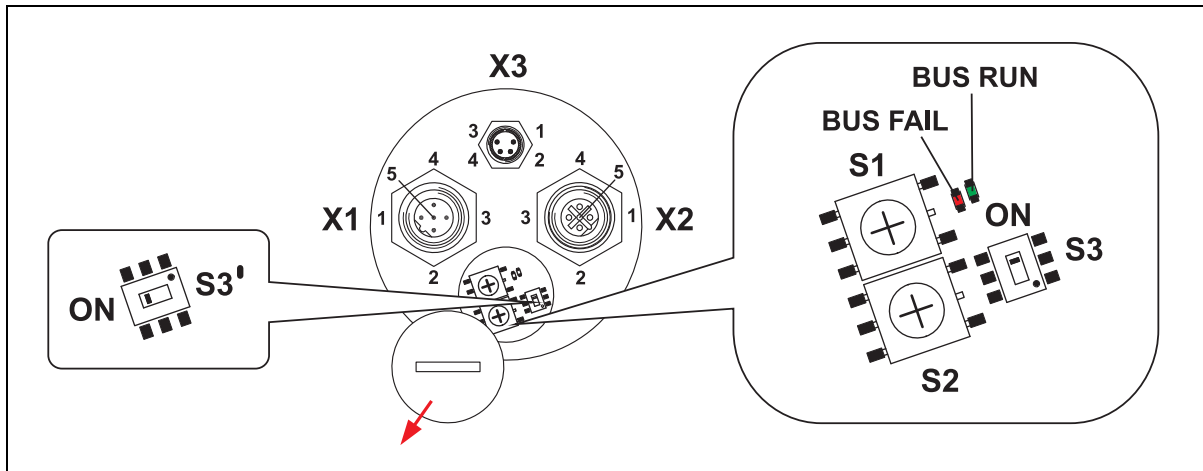
Artikel-Nr. und Steckerbelegung: siehe Datenblatt  
Article-No. and pin connections: see data sheet

|            |            |        |        |
|------------|------------|--------|--------|
| Ø36        | g6         | -0.022 | 35.991 |
| Dimensions | Tolerances | -0.025 | 35.975 |

|  |  |  |  |  |
|--|--|--|--|--|
|  | TR Electronic GmbH<br>Eglshalde 6<br>78647 Trossingen<br>Telefon 07425/228-0 |  | Maßstab 1:1 DIN A3 Projekt-Nr.:  |  |
|  | Erstellt 27.07.2006 FLAIG<br>Bearb. 23.11.2010 NEMECZ                        |  | Zeichnungs-Nr. nur für diese Ausführung gültig<br>Drawing-No. only for this type valid |  |
| 5 Maße ergänzt 23.11.10 Nemezc Gepr.<br>4 3 x M4 ergänzt 31.01.08 Flaig Norm<br>3 Haubenlänge geä. 5.05.07 Flaig<br>2 Steckeransicht 23.10.06 Flaig<br>1 Steckeransichten 20.09.06 Flaig |  |  | <b>CMV-58-M, 36er Zentr.</b>   |  |
| Zust. Änderung Datum Name  |  |  | Zeichnungs-NR./Drawing-No.:<br><b>04-CMV58M-M0002</b>                                  |  |
|  |  |  | Blatt 1<br>BL  |  |

## Steckerbelegung / Pin assignment

### CM\_-58 Profibus-DP PNO Class 2 (2x M12, 1xM8), axial



| X1    | Flanschstecker / Male socket (M12x1-5 pin B coded) |             |   |
|-------|--|-------------|---|
| Pin 1 | N.C.   | Profibus_IN | <b>Gegenstecker / Mating connector:</b><br>BINDER: 99-1436-820-05<br>BINDER: 99-1436-810-05<br>LUMBERG: 0976 PFC 101<br>PHOENIX CONTACT: 15 07 77 7 |
| Pin 2 | Profibus, Data A                                   |             |   |
| Pin 3 | N.C.   |             |   |
| Pin 4 | Profibus, Data B                                   |             |   |
| Pin 5 | N.C.   |             |   |

| X2    | Flanschdose / Female socket (M12x1-5 pin B coded) |              |   |
|-------|---|--------------|---|
| Pin 1 | N.C.  | Profibus_OUT | <b>Gegenstecker / Mating connector:</b><br>BINDER: 99-1437-820-05<br>BINDER: 99-1437-810-05<br>LUMBERG: 0976 PMC 101<br>PHOENIX CONTACT: 15 07 76 4 |
| Pin 2 | Profibus, Data A                                  |              |   |
| Pin 3 | N.C.  |              |   |
| Pin 4 | Profibus, Data B                                  |              |   |
| Pin 5 | N.C.  |              |   |

| X3    | Flanschstecker / Male socket (M8x1-4 pin) |                   |  |
|-------|---|-------------------|--|
| Pin 1 | US, 11-27 V DC                            | (braun / brown)   | Versorgungsspannung,<br>optionaler Anschluss für Servicezwecke<br><br>Supply Voltage,<br>optional connection for service<br>purposes |
| Pin 2 | RS485+                                    | (weiß / white)    |  |
| Pin 3 | GND, 0V                                   | (blau / blue)     |  |
| Pin 4 | RS485-                                    | (schwarz / black) |  |



Betriebsanleitung beachten! - Observe User Manual!



Änderungen vorbehalten / Subject to change

## Steckerbelegung / Pin assignment

● = AN / ON    ○ = AUS / OFF    ⊙ = 1 Hz    ⊚ = 10 Hz

| BUS FAIL<br>rot/red | BUS RUN<br>grün/green | Ursache / Cause  |
|---------------------|-----------------------|--|
| ○                   | ○                     | Versorgung fehlt, Hardwarefehler<br>No supply voltage, hardware error  |
| ●                   | ⊙                     | - Parametrier- oder Konfigurationsfehler<br>(Presetwert 1/2 bzw. Endschalter außerhalb Bereich, falsche GSD-Datei)<br>- Speicherfehler, Positionsfehler<br>- Parameter- or configuration error (Preset value 1/2 or limit switch out of range, wrong GSD file)<br>- Memory error, position error |
| ○                   | ⊙                     | Blinkmodus wird nur durch ältere Mess-System – Generationen unterstützt.<br>Nicht behebbare Mess-System Störung (Speicherfehler, Positionsfehler)<br>Blink mode is supported only in case of older measuring system generations.<br>Unrecoverable encoder defect (memory error, position error)  |
| ⊙                   | ⊚                     | Mess-System wird vom Master nicht angesprochen, kein Data-Exchange<br>No allocation to a master, no data exchange  |
| ○                   | ⊙                     | Parametrier- oder Konfigurationsfehler in PNO-kompatibler Sollkonfiguration (Anzahl Umdr. keine 2er-Potenz)<br>Parameter- or configuration error in PNO compatible target configuration (number of revolutions is not a power of two)  |
| ○                   | ⊚                     | betriebsbereit, kein Fehler, Bus im Zyklus<br>operational, no error, bus in cycle  |

### Allgemeine Hinweise:

Wenn das Mess-System die letzte Station im Profibus-Segment ist, muss der DIP-Schalter S3 bzw. S3' für den Profibus-Terminator (Zuschaltung des Abschlusswiderstandes) eingeschaltet werden. Sonst muss er ausgeschaltet sein. Bei der Zuschaltung des Abschlusswiderstandes werden die Profibus-Signale DataA\_OUT und DataB\_OUT abgeschaltet, nachfolgende Slaves werden vom Bus getrennt.

Um die ankommenden und abgehenden Signale separat verdrahten zu können, sind die Profibus-Stecker zweifach ausgeführt.

TR-Electronic empfiehlt für den Betrieb die Verwendung der von der Profibus-Nutzer-Organisation (PNO) vorgeschriebenen Buskabel. **Die Schirmung ist großflächig auf den Gegenstecker aufzulegen!**

Mit den BCD-Adreßschaltern S1 (10<sup>0</sup>) und S2 (10<sup>1</sup>) wird die Stationsadresse für den Profibus von 3 bis 99 eingestellt.

### General note:

If the measuring system is the last station in the Profibus segment, the DIP switch S3 or S3' for the Profibus terminator (switching-on of the terminal resistance) must be switched on. Otherwise the terminator must be switched off. With the add-on connection of the terminal resistance the Profibus signals DataA\_OUT and DataB\_OUT will be switched off and following slaves are separated from the bus.

In order to enable a separate wiring of incoming and outgoing signals the Profibus connectors have two connection possibilities.

TR-Electronic recommends for the operation to use only bus cables certified by the Profibus User Organization (PNO). **The shielding is to be connected with a large surface on the mating connector!**

With the BCD address switches S1 (10<sup>0</sup>) and S2 (10<sup>1</sup>) the station address for the Profibus is set from 3 to 99.



Betriebsanleitung beachten! - Observe User Manual!



Änderungen vorbehalten / Subject to change