

# TMC 66



## Test monitoring unit

**! Safety note:**

- The TMC 66 test monitoring unit is a contactless active protective device according to EN 61496-1, only in connection with an EC certified protective photoelectric sensor category 2.
- Maximum test response time for muting senders Start 1 and Start 2 is 240ms for each sender.
- Extensive description is part of every shipment.

## Accessories

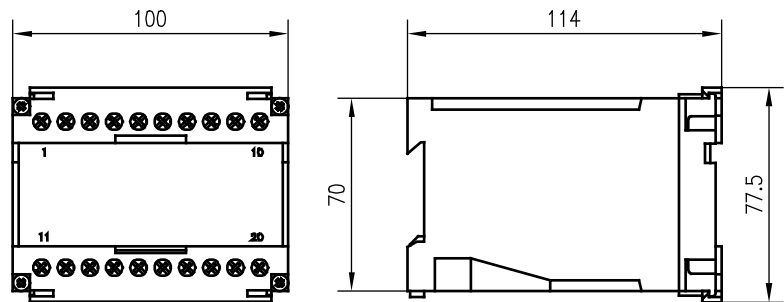
(available separately)

- Testable muting sender - suitable:
  - PRK 96 K/P-1361-29 (Part No. 500 80474)
  - PRK 97/4.8 L (Part No. 500 80474)
  - IPRK 92/4.8 S (Part No. 500 14199)
  - PRK 46/4.8-S12 (Part No. 500 60920)
- All throughbeam photoelectric sensors with (.8) activation input

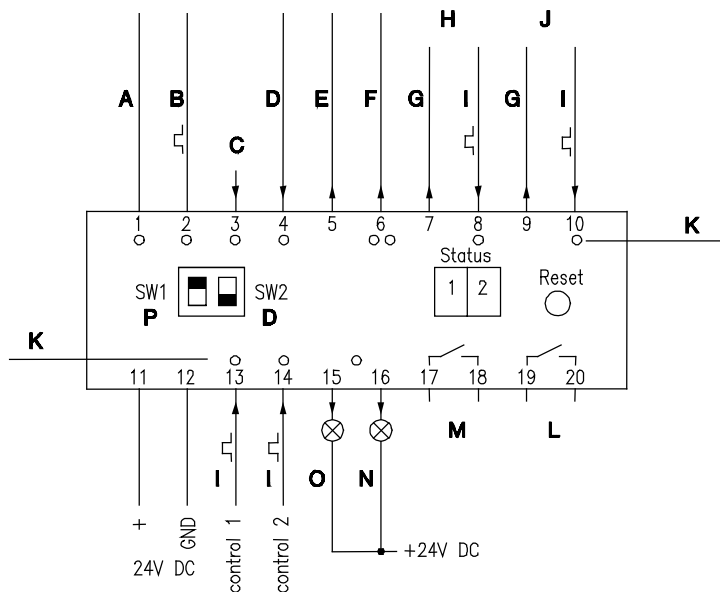
## Features

- High security through permanent cyclic test in time intervals of 2 sec.
- Security relay output with fault protected monitoring
- No interruption of operating during test procedure
- Connection possibility for all current testable protective photoelectric sensors
- Selectable start and restart-disable and contactor control
- Processing of PLC control signals as muting sender
- Integrated muting function
- Connection for two monitored muting warning lights (necessary acc. to EN 61496-1)
- Integrated self-containing mode (start with dimmed AOPD)
- Separate signaling outputs as PNP transistor outputs

## Dimensional Drawing



## Electrical Connection



- |                                    |  |
|------------------------------------|--|
| <b>A</b> SLS transmitter active    | <b>J</b> Start 2                           |
| <b>B</b> SLS receiver              | <b>K</b> Indicator diodes                  |
| <b>C</b> Start                     | <b>L</b> Safety relay output 2             |
| <b>D</b> Relay monitoring          | <b>M</b> Safety relay output 1             |
| <b>E</b> Signal output "Error"     | <b>N</b> Muting lamp 1                     |
| <b>F</b> Signal output "Safety on" | <b>O</b> Muting lamp 2                     |
| <b>G</b> Output Test               | <b>P</b> Start/Restart-disable             |
| <b>H</b> Start 1                   | <b>Status 1</b> Test monitoring unit – SLS |
| <b>I</b> Input                     | <b>Status 2</b> Muting controller          |

## Order guide

|                    |                 |
|--------------------|-----------------|
| <b>Designation</b> | <b>Part No.</b> |
| TMC 66             | 500 82121       |

Subject to change without prior notice



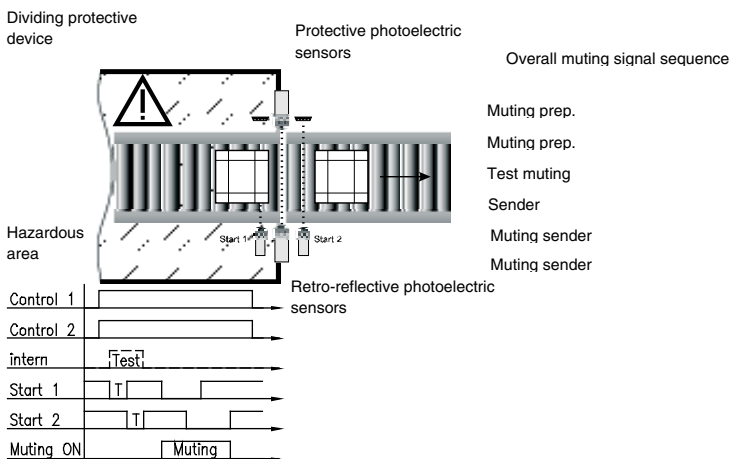
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**Technical Data**

|   |   |
|---|---|
| <b>Specifications</b>                         |   |
| Operating voltage $U_B$                       | 24V DC $\pm 15\%$ (incl. residual ripple)   |
| Residual ripple                               | $\leq 15\%$ of $U_B$  |
| Current consumption                           | approx. 200mA   |
| Response time                                 | $\leq 20\text{ms}$  |
| <b>Sensors</b>                                |   |
| Transmitter activation                        | PNP (HIGH active)   |
| Receiver input                                | optical coupler input <sup>1)</sup>   |
| Activation muting sender                      | PNP (HIGH active)   |
| Input muting sender                           | optical coupler input <sup>1)</sup>   |
| <b>Inputs/outputs</b>                         |   |
| Start input                                   | optical coupler input (HIGH active) <sup>1)</sup>   |
| Signal output „Error“                         | PNP transistor output, 100mA <sup>2)</sup>  |
| Signal output „Safety on“                     | PNP transistor output, 100mA <sup>2)</sup>  |
| Muting preparation<br>Control 1/Control2      | optical coupler inputs (HIGH active) <sup>1)</sup>  |
| Muting light signal transmitter <sup>3)</sup> | N.O. contacts, 24VDC, max. 2A integrated filament monitoring  |
| Relay monitoring                              | optical coupler input (HIGH active) <sup>1)</sup>   |
| Safety output                                 | voltage free N.O. contacts, max. current load 4 A   |
| External fuse protection                      | internal with max. 4 AMT  |
| Overvoltage category 4                        | for rating voltage 300 V AC acc. to VDE 0110 part 1   |
| <b>Mechanical data</b>                        |   |
| Housing                                       | polycarbonate, cover ABS/v-o gray   |
| Connection                                    | screw terminals max. connection cross section $2 \times 2.5\text{mm}^2$<br>acc. to DIN 46288  |
| Mounting type                                 | snap-on mounting on top hat rail  |
| Weight  | 200g  |
| <b>Environmental data</b>                     |   |
| Ambient temp. (operating/storage)             | -20°C ... +60°C/-30°C ... +70°C   |
| Protection class                              | IP 40 (only for application in electrical operating rooms/<br>switching cabinet with minimum protection class IP 54 is<br>suitable) |
| Contact protection                            | acc. to VBG 4 and VDE 0106 part 100   |

- 1) Input current approx. 10mA
- 2) Short-circuit and polarity reversal protection
- 3) Acc. to EN61496-1 light density min. 200cd/m<sup>2</sup>, light area min. 1cm<sup>2</sup>

**Muting system structure**



**Muting procedure**

Before inducing a muting function, a test of the connected muting signal senders, e.g. retro-reflective photoelectric sensor with activation input via the muting preparatory signals of Control 1 and Control 2 is performed.

With the TMC 66, a start of the unit can be performed even with dimmed protective photoelectric sensors. This “self-containing mode” can be induced with the start condition  $U_{B\text{ ON}}$ , if using retro-reflective photoelectric sensors or security switches as muting sender. The muting function starts with actuation of the first muting sensor “Start 1” and ends with the release of the second muting sensor “Start 2” and the switching off of the muting preparatory