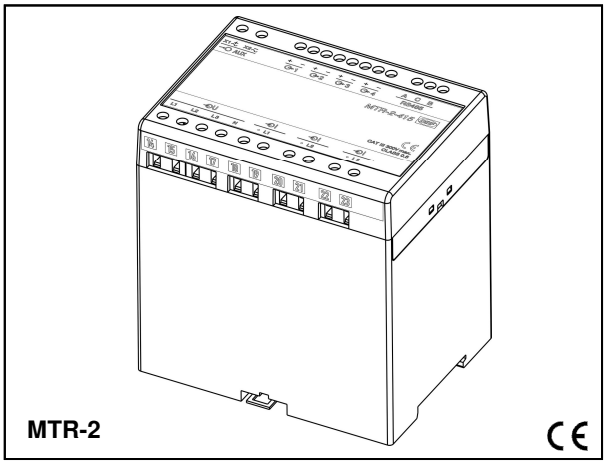
*Type MTR-2*

# *Multi-transducer*

***4921220046B***

- ***Up to 4 analogue outputs***
- ***RS485 serial communication***
- ***Class 0.5 accuracy***
- ***Wide range aux. supply***
- ***Measures more than 50 parameters***




## *Application*

The MTR-2 is a configurable multi-output transducer for measurement of values on a three-phase network.

The MTR-2 features up to 4 analogue outputs, serial communication. The standard versions are the following:

| Type | Analogue outputs | Serial output* | Accuracy class |
|---|---|---|---|
| MTR-2-015 | - | X | 0.5 |
| MTR-2-315 | 3 | X | 0.5 |
| MTR-2-415 | 4 | X | 0.5 |

*: RS485 Modbus.

## *Measurements*

The following parameters are measured by the MTR-2:

- AC voltage
- AC current
- Active/reactive/apparent power
- φ, power factor
- Frequency
- THD
- Dynamic demands
- Maximum demands

## *Configurable parameters*

By means of the free utility software, the following parameters of the MTR-2 can be programmed:

- Analogue outputs (which measurements are presented on the different outputs)
- Curve form of analogue outputs (linear or with up to five cross points)

By means of the utility software, the analogue outputs can be configured to:

- All between -20...20mA, burden voltage 15V
  Example: 0...1mA or 4...12...20mA
- All between -10...10V, burden current 20mA
  Example: 0...1V or 0...10V

## *General output characteristics*

Response time: < 300ms

Ripple: < 1% p.p.

## *Accuracy (according to EN 60688)*

- Current: 0.5
- RMS voltage: 1.0
- Phase to neutral voltage and average phase to neutral voltage: 0.5
- Phase to phase voltage and average phase to phase voltage: 1.0
- Frequency: 0.2
- Active, reactive and apparent power: 0.5
- Power factor: 0.2
- Phase angle: 0.2
- Dynamic demand values: 1.0
- Maximum demand values: 1.0

**Reference conditions:**

Ambient temperature: 0...50°C

Input: 0...100% I/Un

Active/reactive factor: cosφ/sinφ = 1

Waveform: Sinusoidal, form factor 1.1107

## *Measuring input*

Voltage: 50 to 500V AC phase to zero
87 to 866V AC phase to phase

Current: 5A

Frequency: 50/60Hz (45...65Hz)

Overload tolerance (according to EN 60688):

| Value | No. of instances | Duration | Interval |
|---|---|---|---|
| | Current | | |
| 2 x In | - | Continuous | - |
| 20 x In | 5 | 1s | 300s |
| | Voltage | | |
| 1.5 x Un | - | Continuous | - |
| 2 x Un | 10 | 1s | 100s |

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*Type MTR-2*

## *Power supply*

| | |
|---|---|
| Rated voltage: | 19...300V DC<br>40...276V AC |
| Frequency: | 40...70Hz |
| Supply burden: | < 3VA |

## *Communication*

| | |
|---|---|
| Message format: | Modbus RTU |
| Data rate: | 1,200-115,200bits/s |

**RS485:**

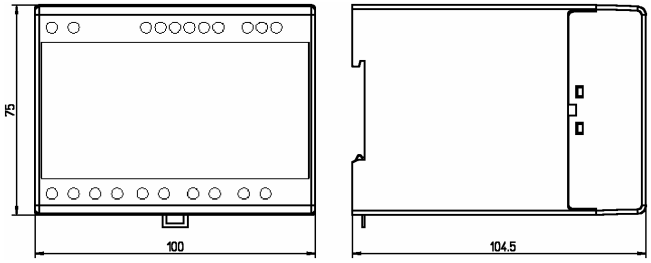
| | |
|---|---|
| Connection: | Multi-drop |
| Signal levels: | RS485 |
| Maximum cable length: | 1,000m |
| Connection: | Screw terminals |
| Message format: | Modbus RTU |
| Data rate: | 1,200-115,200bits/s |

## *Ambient temperature*

| | |
|---|---|
| Ambient temperature: | -10…55°C (nominal)<br>-25…70°C (operating)<br>-40…70°C (storage) |
| Temperature coefficient: | Max. ±0.2% of full scale per 10°C |

## *Housing*

| | |
|---|---|
| Mounting: | DIN-rail |
| Enclosure: | IP50 |
| Weight: | 500g |
| Connection: | < 4.0mm$^2$ single core<br>2 x 2.5mm$^2$ multi core |




*All dimensions in mm*

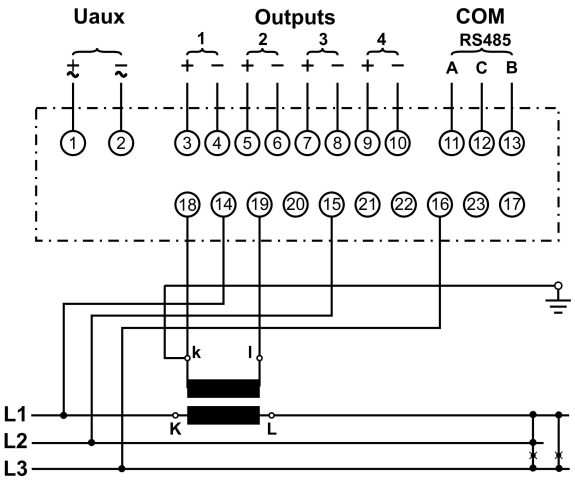
## *General compliance with specifications*

| | |
|---|---|
| Performance: | EN/IEC 60688, according to specification |
| Safety: | EN/IEC 60688<br>EN/IEC 61010-1<br>EN/IEC 60695-2-2, flammability |
| EMC: | Generic standards:<br>EN/IEC 61000-6-1<br>EN/IEC 61000-6-2<br>EN/IEC 61000-6-3<br>EN/IEC 61000-6-4 |

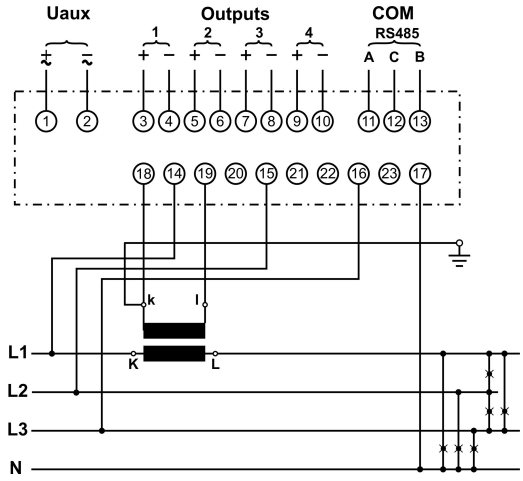
Plus basic EN/IEC standards referred to from the generic standards above.

| | |
|---|---|
| Climate: | IEC 60068-2-1, according to specification<br>IEC 60068-2-2, according to specification<br>IEC 60068-2-2, 2 x 24h |
| Vibration: | IEC 60068-2-6, ±1mm/0.7g |
| Shock: | IEC 60068-2-27, 50g |
| Galvanic separation: | 500V between outputs<br>4kV between inputs and outputs<br>4kV between inputs and aux. supply<br>4kV between aux. supply and outputs |

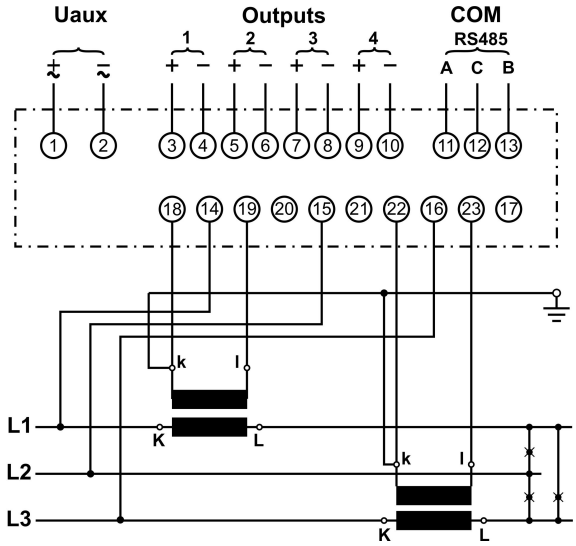
## *Connection options*



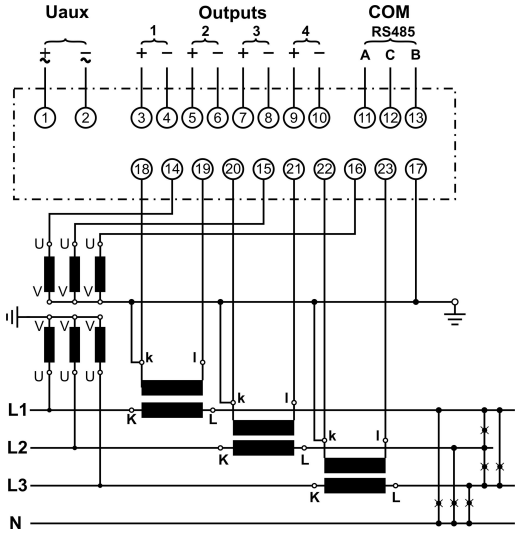

*Three-phase three-wire balanced (1W3/3b)*




*Three-phase four-wire balanced (1W4/4b)*




*Three-phase three-wire unbalanced (2W3/3u)*




*Three-phase four-wire unbalanced (3W4/4u)*

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## *Order specifications*

To order a transducer, quote the type.

*Examples:*

Transducer without output:
MTR-2-015

Transducer with 3 outputs:
MTR-2-315

Transducer with 4 outputs:
MTR-2-415

**For configuration/communication:**
USB – RS485 signal converter

Due to our continuous development we reserve the right to supply equipment which may vary from the described.

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