DEIF A/S

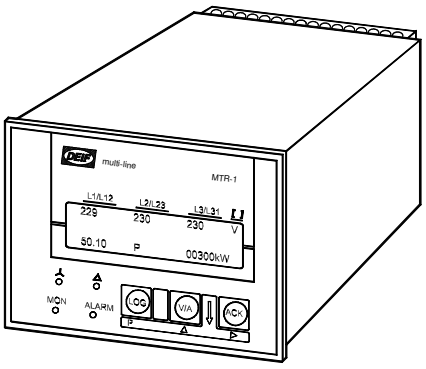
Type MTR-1

multi transducers

multi-line

4921220026I

- ***All 3-phase AC measurements, true RMS***
- ***3 programmable analog outputs*** ***(current can be indicated with signs as function of power direction)***
- ***1 programmable pulse output***
- ***Display showing all measurements***
- ***Optional serial output for all values***
- ***1-, 2- or 3-phase measurements***



MTR-1

CE

Application

The MTR-1 multi transducer is a microprocessor-based measuring unit providing measurement of all electrical values on a single phase or 3-phase network, showing the measurements on the built-in display and transmitting these as:

- 3 analog outputs
  and
- 1 pulse output
  and
- a serial output (option).

The MTR-1 can replace several transducers in all electrical measuring applications, and can be applied both as a normal transducer, where the analog output is connected to a local control system, and as a remote value reading unit, where all measured values are transmitted to the remote control system via the serial interface.

The MTR-1 can measure true RMS values on all network topologies with/without neutral and with both balanced and unbalanced load.

MTR-1 contains all necessary measuring circuits and presents all values on an LC display. Messages are presented in clear text, all measuring values in engineering units.

The MTR-1 is a flexible and menu-programmed unit, enabling the user easily to adapt the unit to the application in question. Programming procedures are password protected.

Standard functions

The unit is designed for measurement on a 3-phase or 1-phase network.

Measured and calculated values

- phase to neutral voltage (3-phase U_{max}, U_{min} and average)
- phase to phase voltage (3-phase U_{max}, U_{min} and average)
- current (3-phase I and average) and direct. current.
- active power
- reactive power
- apparent power
- cos-φ
- frequency

  Each of the 3 analog outputs can be programmed to represent any of the above measurements, and the output signal can be programmed to the required scaling and type.
- energy production (kWh) counter (not for billing purposes)

  The open collector pulse output can be programmed to transmit any fixed number of pulses per produced kWh.

Options

Option A1: Remote value reading
- RS 232 remote value reading of all values measured by MTR-1.
- Siemens 3964, RK512 with standard telegram.

Option A2: Remote value reading
- RS 485 remote value reading of all values measured by MTR-1.
- Modbus standard telegram.

Other communication standards available on request.

Option B0: 12V DC power supply

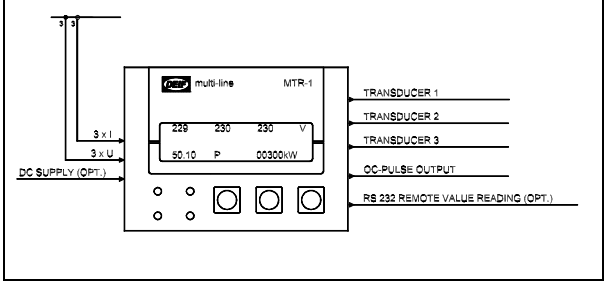
Option B1: 24V DC power supply

Option B2: 48V DC power supply

Option B3: 110V DC power supply

Option B4: 220V DC power supply

Principle diagram

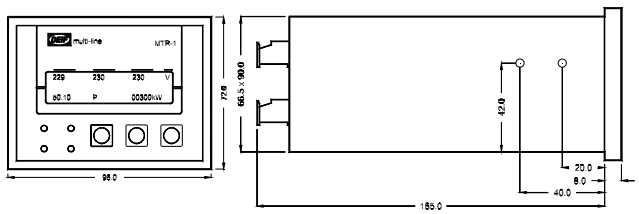


Type MTR-1

Technical specifications

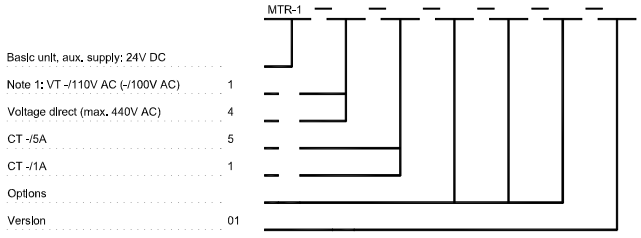
Accuracy:	Class 0.5, to IEC 688 (Modbus class 1.0)
Operating temp.:	-20...70°C (display, however: -20...60°C)
Climate:	Class HSE, to DIN 40040
Measuring voltage:	100/110 (1)..450V AC (4) ±20%. Consumption: max. 0.15VA per phase
Measuring current:	-/1A or -/5A Consumption: max. 0.1VA per phase Overcurrent: max. 20 x I_n for 1 s -/1 A: max. 100 x I_n for 1 s -/5 A: max. 20 x I_n for 1 s
Meas. frequency:	30...70Hz
Auxiliary supply: - Standard: - Optional:	 85...231V AC ±20%, max. 6W 12-24-48-110-220V DC +30/-25%, max. 6W
Open collector output:	Max. 30mA "ON" current. Max. 27V "OFF" voltage.
Fuse:	All voltage inputs should be protected by a 2A fuse
Analog outputs:	(0) 4...20mA or -20...0...20mA: Max. load 400Ω. Max. reading 32MW. See note 1.
Safety:	To EN 61010-1. Installation Cat. III, 300V. Pollution degree 2.
Galvanic separation:	Between open collector output and remaining circuits. Between analog outputs and remaining circuits. Between current inputs and remaining circuits.
EMC:	To EN 50081-1/2 and EN 50082-1/2.
Connections:	Max. 2.5 mm^2 (supply, measuring voltage and measuring current). Max. 1.5 mm^2 (analog outputs, open collector output and optional serial interface).
Protection:	IP21. Front: IP52. To IEC 529 and EN 60529.
Housing:	To DIN 43700.

Dimensions (in mm)



Weight: approx. 0.5 kg Panel cut-out: 68 x 92 mm +0.5

Order specifications



	Type	Voltage	CT	Options	Version
Example: MTR-1-4-1-B1	MTR-1	Direct	-/1A	B1	

Note 1: If max. reading is more than 32MW, please add version 01 in order specifications, and if Vt is more than 65kV, please also add version 01 in order specifications.

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

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