

Trafo Ω x Superintend[®]

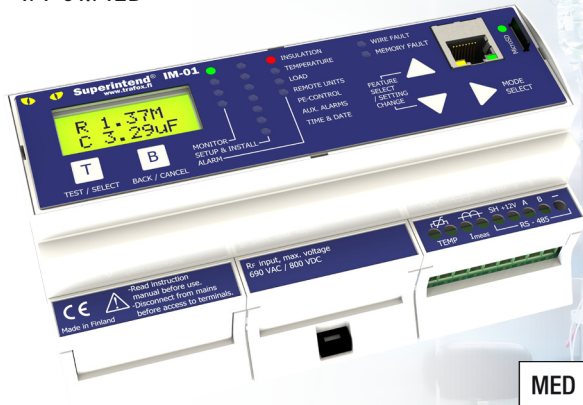


Health
care

IMD Insulation
Monitoring device

Line Insulation Monitoring System

IM-01.MED

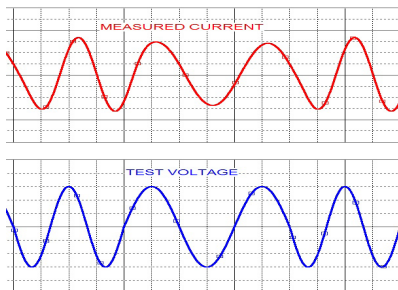


- NEW FEATURE! Modbus/TCP interface for remote monitoring and controlling!
- Visual user interface and easy installation
- Automatic recognition of the network impedance and capacitance (subharmonic distortion)
- Load and temperature monitoring of the isolation transformer and a potential free alarm contact
- Optional remote modules for insulation and transformer monitoring
- Possibility of connecting PE conductor monitoring units
- Removable microSD memory card for analyzing the usage history and fault events

INSULATION RESISTANCE MEASUREMENT PRINCIPLE WITH 2 FREQUENCIES SHAPED LIKE SINE WAVES

Basics of the operation:

Device supplies continuously test signal pattern of two sinusoidal voltages to the insulated supply system. This signal causes a small injected current which flows through the insulation resistance and capacitance back to the PE- potential. The current amplitudes and phase angles of the both frequencies are measured and thereafter analyzed by using statistical analyses, and the resistance and capacitance values are calculated by using very ordinary electrical circuit theory and complex math. Depending on the resistance and the capacitance the frequencies are automatically adjusted for the best accuracy and response time. In the case of subharmonic noise in the power supply system due to motor drives, the lowpass filters and test frequencies, among other things, are automatically adjusted.



Typical wave forms above.

high nowadays because of large amounts of different kinds of switch mode power supplies connected in office environments or similar.

This kind of test system functions in all kinds of power supply systems from pure DC to AC and fulfill the response times of IEC 61557-8. The lowest limit for AC- frequency / amplitude in the power supply system is specified in the data sheets of the device. This measuring method is good in cases where high capacitance and resistance exist at the same time in the power supply system insulation because there is no need to wait for the current to decrease as with pulse voltage measurement method. One additional feature of this method is the real capacitance value display. The capacitance value is rather

Practically every to the mains-connected device has an internal switch mode power supply having a radio interference filter with PE- connected capacitors from 1nF to 50nF. This insulation monitor device keeps log files of capacitance and resistance changes among other things in a microSD memory card. In case of trouble this log can be examined backwards to find the time stamp when a significant change has taken place in the resistance or capacitance. The changes or events in the power supply system can be tracked accordingly to those date and time.

Power supply specifications

Nominal Input voltage	110-240 VAC, 110-300 VDC (Schurter 0001.2503 (T800mA))
Nominal input current	0.04 A at 230 VAC
Line frequency	48 ~ 62 Hz

Measurement specification

Maximum input voltage	240 VAC / 280 VDC
Resistance measurement range	20kΩ...10MΩ (22kΩ...5MΩ with better than 15% accuracy)
Capacitance measurement range	100nF...100uF
System frequency	DC, 10Hz - 500Hz
Measuring impedance	220kOhm
Test voltage	25Vp max

Three alarm contacts with settable limits (potential free changeover)

Alarm contact	5A at 250VAC
Pre-alarm contact	5A at 250VAC
Transformer alarm contact	5A at 250VAC

Other functions

Remote units for insulation and transformer monitoring	max 32 remote units total
RS-485 serial connection for remote units	
Modbus/TCP interface for remote monitoring and controlling	

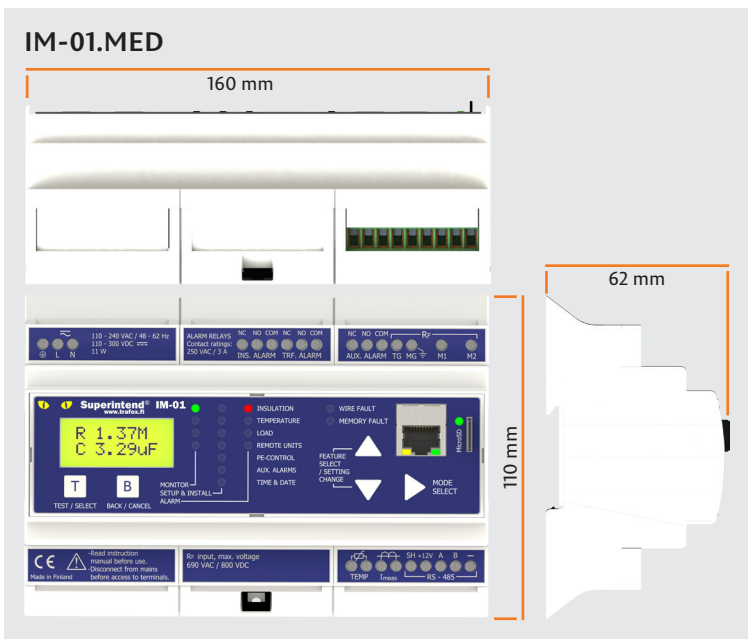
Transformer temperature monitoring	-40...+125 °C (with external NTC or PT100)
Transformer current measurement	With external current sense transformer
PE conductor monitoring	With monitoring unit PEC-01
Memory logging with microSD card slot	
Analog output of resistance measurement	0...20 mA, with current loop transmitter CLT-01
Easy and explanatory user interface	LEDs and backlit LCD display
Surveillance of the connections to the system to be monitored and earth	
Self-testing automatic	Continuous
Self-testing immediate	With TEST button

Standards

Measurements	IEC 61557-8:2014, IEC 60364-7-710.413.1.5
Safety	IEC 61010-1:2010+AMD1:2016 SGS Tüv SAAR type approved
EMC	IEC 61326-2-4, CISPR 11 / EN55011, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11 Tested / approved by Nemko

General

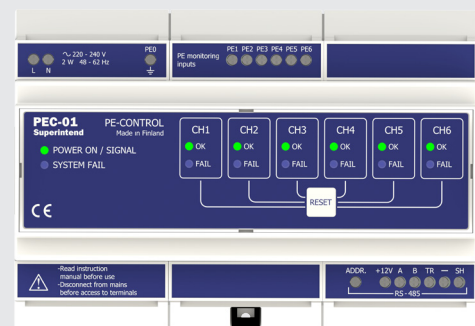
Dimension (W x L x D)	160 x 110 x 62 mm
Weight	0,35 kg
Case Material	Plastic
Mounting interface	DIN rail clamp



ACCESSORIES

- PE conductor continuity monitoring unit PEC-01
- Current loop transmitter CLT-01
- Remote module for insulation monitoring IC-01
- Remote module for transformer monitoring TC-01
- Remote module for insulation and transformer monitoring RD-01
- Centralized remote display unit RD-12 for 12 IM-01.MED

PEC-01



CLT-01



IC-01



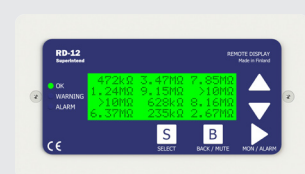
TC-01

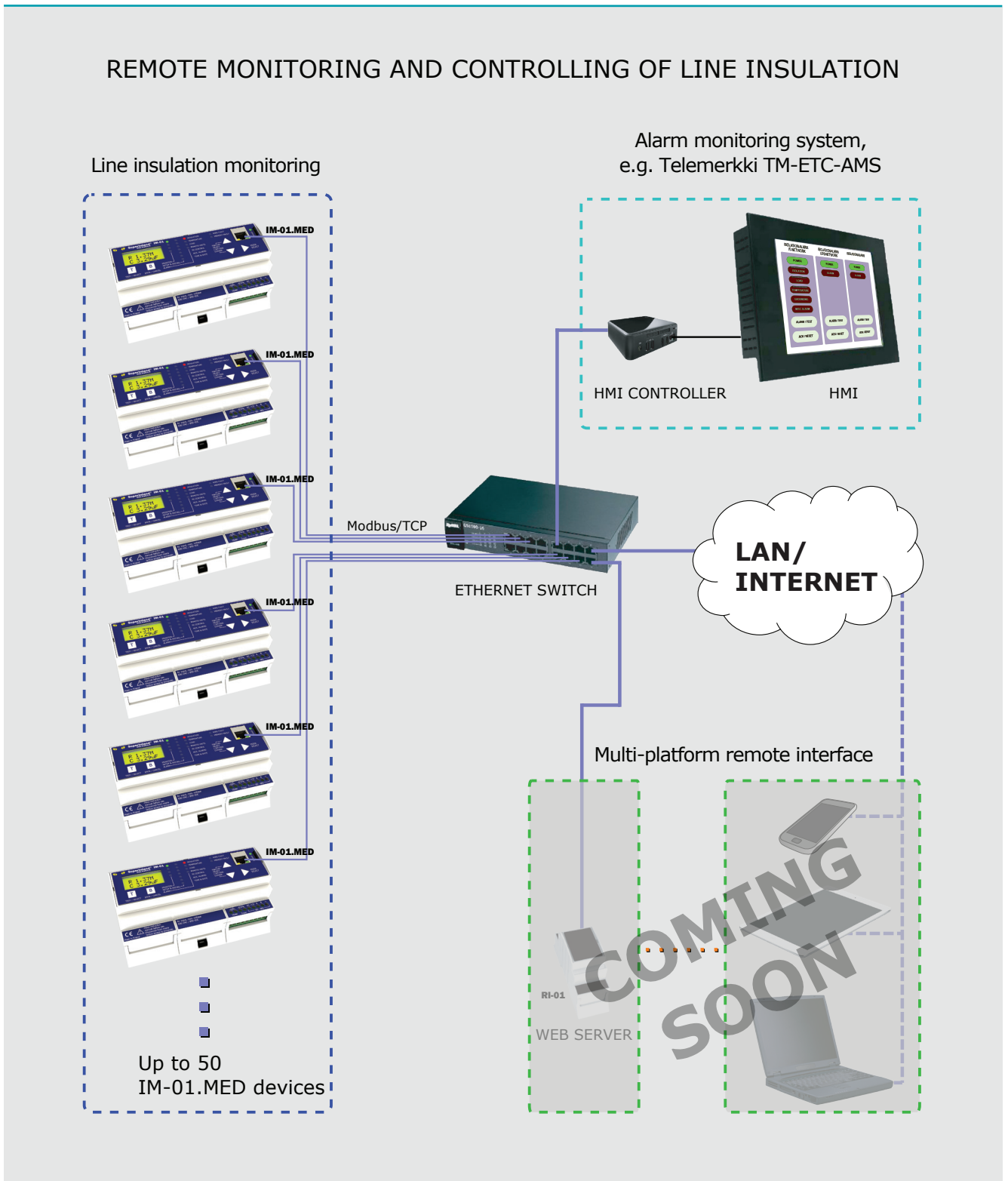


RD-01



RD-12





Muuntosähkö

Trafox is a brand of Muuntosähkö Oy. We develop, manufacture and customise high-quality transformers, chokes, filters and Trafox Superintend® monitoring devices for a large number of applications.

MUUNTOSÄHKÖ OY TRAFIX

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