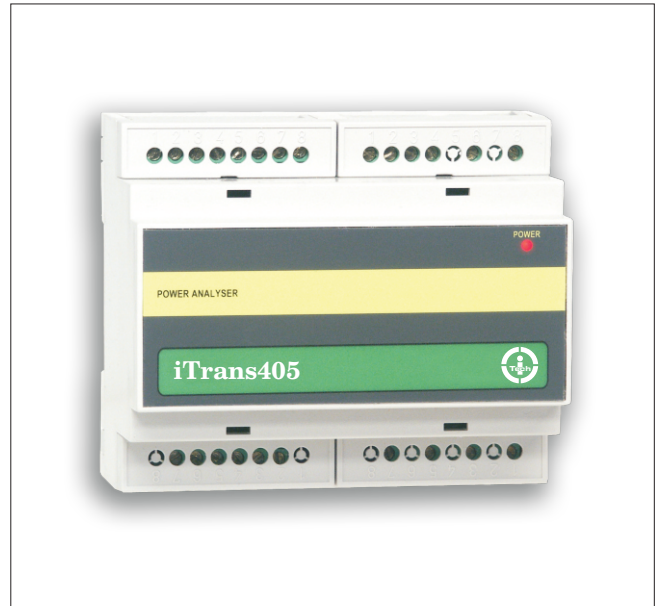


- Compact 6 DIN modules size
- True RMS measurement
- More than 50 electrical parameters measured
- Neutral current monitoring
- Bi-directional, four quadrants values on serial communication port
- Power and current demand calculation during user-definable time period
- Available with built-in Ethernet 10/100 Base-T
- No PTs required up to 600 (750) V_{AC}
- Programmable CT ratio
- WINTOOL communication software available for free on the web



General description

iTrans405 is a digital transducer able to measure the electrical parameters on three-phase systems.

It provides accurate measurements even by distorted waveform.

The RS232 or RS485 serial communication port allows to transfer the three-phase electrical parameters from the instrument.

Two different software are available for PC:

- WINTOOL: available for free on the internet, allows to show on a PC all the measured values and to program the instrument in a fast way.
- DEDALO: a powerful software with a complete range of function, for a single instrument connection or for a meter network up to 512 instruments.

iTrans405 replaces multiple analog transducers as well as single function devices such as voltmeters, ammeters, wattmeters, varmeters, frequency-meters, powerfactor-meters, energy-meters, etc.

iTrans405 is a compact, cost effective multi-function transducer suitable for energy monitoring and management network.

Benefits

- iTrans405 is the low cost solution for monitoring of all the main electrical parameters.
- It provides peak average current and power demand information. This data is essential to work out proper strategies aimed at avoiding uncontrolled power peaks and consequent penalties.
- iTrans405 being ultra-compact and easy to mount is suitable for replacing conventional transducers. UPT2010 provides powerful capabilities not offered by traditional analog transducers.
- iTrans405 offers time and cost saving on mounting, compared to many individual single-function devices.
- Via communication port it is possible to read and log on a PC all the readings. The remote connection allows to generate on a PC consumption profiles, logged values trends, cost allocation and reports as well as to identify critical values.

Applications

- Switchboards, gensets, motor control centers, etc.
- Power monitoring & control systems
- Individual machine load monitoring
- Demand management
- Remote metering and cost allocation

Main features

Measurements

- Three-phase 3-wire or 4-wire unbalanced load operation.
- True RMS metering provides accurate measurement even for distorted waveform.
- Fully bi-directional, four-quadrant values on serial communication port.
- More than 50 electrical parameters measured (instantaneous, demand, peak values, energies, etc.).
- Direct measurement up to 600 (750) V_{AC}.
- Programmable CT ratio.

Communication

- RS232 or RS485 optoisolated communication port.
- MODBUS or A2 ASCII protocol.
- Communication speed programmable up to 57600 bps.

Inputs & outputs

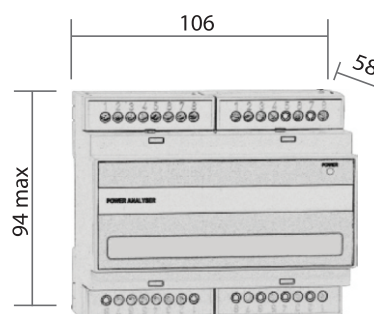
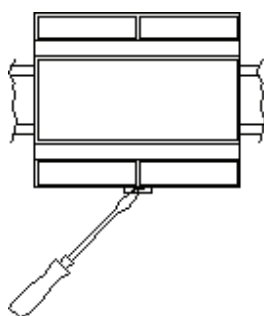
- Two digital outputs for threshold alarm or energy pulsing.
- On request input for Rogowski coils.

iTrans405 ETH

- Built-in 10/100 Base-T Ethernet interface.
- Direct communication through Ethernet / Internet network using MODBUS or A2 ASCII protocol.

INSTANTANEOUS MEASUREMENTS		
PHASE VOLTAGE	$V_{L1-N} - V_{L2-N} - V_{L3-N}$ [V]	●
LINE VOLTAGE	$V_{L1-L2} - V_{L2-L3} - V_{L3-L1}$ [V]	●
SYSTEM VOLTAGE	V [V]	●
LINE CURRENT	$I_{L1} - I_{L2} - I_{L3} - I_N$ [A]	■
SYSTEM CURRENT	I [A]	■
POWER FACTOR	$PF_{L1} - PF_{L2} - PF_{L3}$	●
SYSTEM POWER FACTOR	PF	●
APPARENT POWER	$S_{L1} - S_{L2} - S_{L3}$ [VA]	■
SYSTEM APPARENT POWER	S [VA]	■
ACTIVE POWER	$P_{L1} - P_{L2} - P_{L3}$ [W]	■
SYSTEM ACTIVE POWER	P [W]	■
REACTIVE POWER	$Q_{L1} - Q_{L2} - Q_{L3}$ [var]	■
SYSTEM REACTIVE POWER	Q [var]	■
FREQUENCY	f [Hz]	●
DEMAND (AVERAGE VALUES)	$3 \times I_{AVG} - S_{AVG} - P_{AVG}$	●
PHASE REVERSAL	123 / 132	●
STORED DATA		
SYSTEM ACTIVE ENERGY	[Wh]	■
SYSTEM APPARENT ENERGY	[VAh]	■
SYSTEM LAGGING REACTIVE ENERGY	[varh ind]	■
SYSTEM LEADING REACTIVE ENERGY	[varh cap]	■
PEAK VALUES	$3 \times V_{L-N} - 3 \times V_{L-L} - 3 \times I_{L} - 3 \times I_{AVG} - I_N - P_{AVG} - S_{AVG}$	●
● = Standard ■ = Bi-directional value		

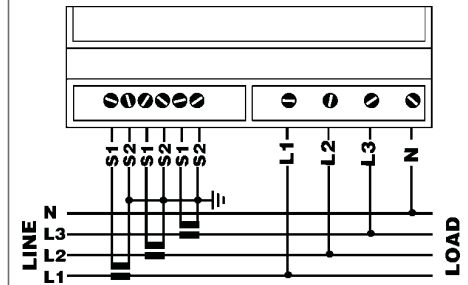
DIN rail mounting and size (mm)



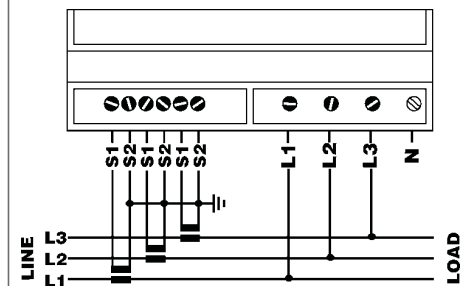
Specifications

Power supply	
Rated voltage:	115 V _{AC} / 230 V _{AC} +15% -20%
Consumption:	2 VA max
Voltage inputs	
Maximum measurable voltage:	600 (750) V _{AC} max L-L
Input impedance:	>1.3 MOhm
Burden:	max 0.15 VA per phase
Frequency:	45 - 65 Hz
Current inputs	
Rated current (I _b):	5 A _{RMS}
Min / max measurable current:	20 mA / 7 A _{RMS}
Maximum overload:	10A _{RMS} continuous - 100 A _{RMS} for 1 sec.
Input impedance:	0.02 Ohm approximately
Burden:	max 0.5 VA per phase
Insulation voltage:	150 V _{AC} max between phases
Rogowski input:	200÷49995 A on request
Typical accuracy	
Voltage:	± 0.3% reading ± 0.05% full scale
Current:	± 0.5% reading ± 0.05% full scale (5 A _{RMS})
Active power:	± 1% reading ± 0.2% full scale (PF=1)
Power factor:	± 1.5% reading (0.5 inductive - 0.8 capacitive)
Active energy:	± 1.5% reading (0.5 inductive - 0.8 capacitive)
Frequency:	± 0.05% reading ± 1 digit from 45 to 65 Hz
Communication port	
Type:	RS232 or RS485 on request, optoisolated
Baud rate:	300 to 57600 bps
Ethernet interface	
Type:	10/100 Base-T
Protocols:	TCP, UDP, IP, ICMP, Ethernet MAC
Connector:	RJ45 standard
Digital outputs	
Type:	2 optoisolated (50V-100mA _{AC-DC})
Environmental conditions	
Operating temperature:	from -20°C to +60°C
Storage temperature:	from -30°C to +75°C
Relative humidity:	80% max. without condensation
Mechanical characteristics	
Material:	plastic enclosure - noryl UL94-V0
Protection degree:	IP20
Terminals:	conductors 2.5mm ²
Size / weight:	106 x 90 x 57 mm, 300 gr
Standards compliance	
Safety:	73/23/EEC and 93/68/EEC directives, EN61010.1 safety standard
EMC:	89/366/EEC directive and following modifications 93/31/EEC and 93/68/EEC, EN50081-2, EN50082-2, EN61326/A1

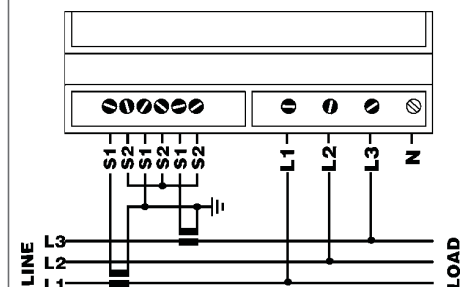
WIRING DIAGRAMS



3.4.3 - direct connection



3.3.3 - direct connection



3.3.2 - direct connection

Ethernet 10/100 interface - iTrans405

The iTrans405 can be equipped with built-in 10/100 Ethernet interface.

By the supplied software it is possible to program on each instrument a proper IP address.

It can be connected to the Ethernet network and can communicate to a host using MODBUS or A2 ASCII protocol.

If an Internet access is available, all the measurement carried out by the unit are available on a remote point.

Main features

- Protocols: TCP, UDP, IP, ICMP, Ethernet MAC.
- Network interface: 10/100 Base-T.
- Communication speed: 10/100 Mbps.
- Connection: RJ-45.
- No. 5 LEDs for: link, duplex, 10 Mbps, 100 Mbps, collision.
- Software for setup and communication included.

WINTOOL - Communication and monitoring software

- For Microsoft Windows environments
- User-friendly
- Real time data viewing
- Quick instruments setup
- Parameters verification
- Available for free on the web

WINTOOL software enables the power meters to be connected to a PC for measured data viewing.

It allows an easy and fast way to set the instrument parameters by a desktop or portable PC.

The remote monitoring is carried out through serial communication port (RS232 or RS485) or Ethernet TCP / IP / Internet connection.

It is a multilanguage software, at present the available languages are: English, German, Italian, French, Spanish, Hungarian.

It is the "free-of-charge" solution to configure and display the readings from instruments with or without display.

Real time data viewing

WINTOOL displays real-time values from the instruments.

The available information includes:

- Real time values (voltage, current, power, PF, power)
- Energy consumption values (active, reactive and apparent)

Quick instrument setup

Because of user-friendly approach, the power meters can be configured more quickly by the WINTOOL software than by using keypad.

The software shows the hardware configuration of the connected meter.

A SEARCH function allows to automatically detect the connected meter without the need of writing the serial number.



ORDER FORM

4	0	5			
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Communication Protocol

B = A2 ASCII

C = MODBUS

E = ETHERNET*

Serial port

X = None (only with protocol E)

2 = RS232 (only with protocol B or C)

5 = RS485 (only with protocol B or C)

Rogowski coil Inputs

X = None

R = Rogowski input

200–49995A

(value to be specified)

**PERFECT CONTROLS**