IME

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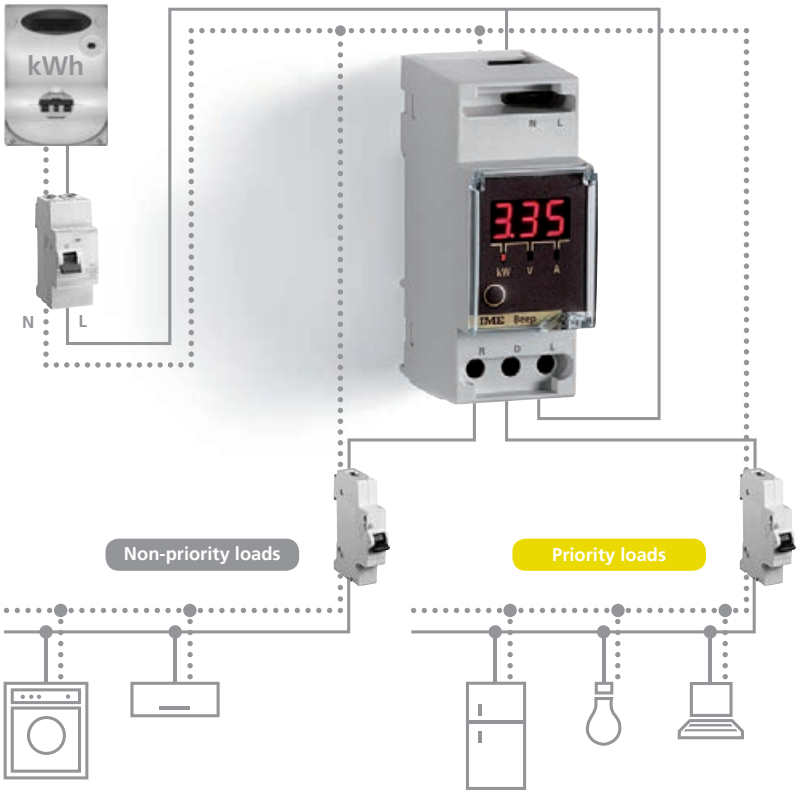
MEASURING INSTRUMENTS AND INTEGRATED SYSTEMS

SHORT-FORM CATALOGUE 2016

Let's take a break!

Load management relay
for 2nd level systems CEI 64-8

Turning on several electrical appliances at the same time and the consequent power overload can cause the meter to cut out and the relative power cut.
Beep is a consumption management relay for single phase networks with users up to 6 kW, designed to solve this problem.
It continuously monitors the power used and, if the power threshold that can be set is exceeded, it emits a warning by means of a buzzer so that the loads can be manually removed in order to reduce the power before the electricity cuts out or, if the relay-type output is enabled, it automatically cuts off the non-priority loads. These are then reactivated after a lapse of time that can be programmed.
Thanks to the programming of the overload threshold (up to 6.5 kW), it can be used on users with different powers 3-4,5-6 kW (default setting per user 3 kW) and it is able to manage non-priority loads up to 16A.
During normal functioning, if the front key is pushed, it is possible to display with red LEDs, the real time values of the active power (kW), the voltage (V) and the current (A).



Code	Current	Voltage	Aux	Output
RM2P133	28A	230-240 V	230 Vac	SPST (250V-16A) relay

LOCAL MEASUREMENT POINTS

Energy meters

Energy meters for LV single phase 1PH+N show on LCD display the simple count of the active energy consumption (kWh) class 1 EN/IEC 62053-21

Conto D1 NT784

Direct-connected unidirectional energy meter
1 DIN module - 20mA starting current

Code	Current	Voltage	Aux	Output
CE11165A0	up to 32A	230-240 V	Self supplied	-
CE11165A2	up to 32A	230-240 V	Self supplied	Pulses

Conto D2-b NT660

Direct-connected unidirectional energy meter
2 DIN modules - 20mA starting current

Code	Current	Voltage	Aux	Output
CE21175A0	up to 36A	230-240 V	Self supplied	-

Multimeters without energy counting

Multimeters with backlit LCD displays for three-phase 3PH/3PH+N in LV with CT connection.
True RMS of: A, V, kW, kvar, kVA, average A, average kW, Hz, cosφ, h

Nemo D4-b NT588

4 DIN modules

Code	Current	Voltage	Aux	Output
MF6GT00076	from CT/5A	Up to 480 V	230-240 Vac	-

KIT Nemo D4-b + TAIBB NT860

KIT ready for installation, includes 1 multifunction + 3 TAIBB for currents from 60 to 250A
Closed core TAIBB with ø 21mm windows.

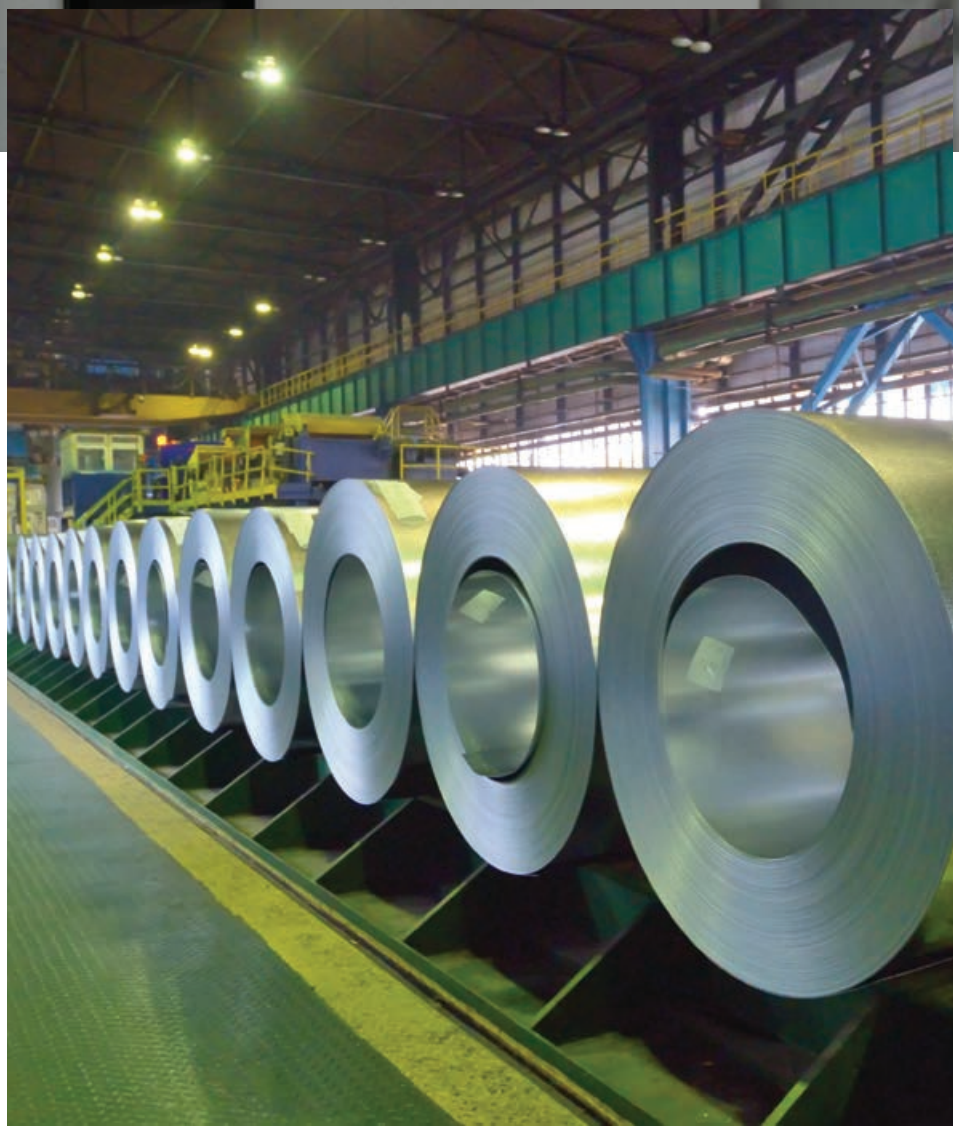
Code	Current	Voltage	Aux	Output
K1NEMOD4B060	60A	Up to 480 V	230-240 Vac	-
K1NEMOD4B100	100A	Up to 480 V	230-240 Vac	-
K1NEMOD4B150	150A	Up to 480 V	230-240 Vac	-
K1NEMOD4B250	250A	Up to 480 V	230-240 Vac	-

Nemo 72-b NT651

flush mounting 72x72mm

Code	Current	Voltage	Aux	Output
MF7GT0009A	from CT/5A	Up to 450 V	Self supplied	-
MF7GT2009A	from CT/5A	Up to 450 V	Self supplied	2 alarms [1]

[1] individually programmable thresholds for one of the measured variables

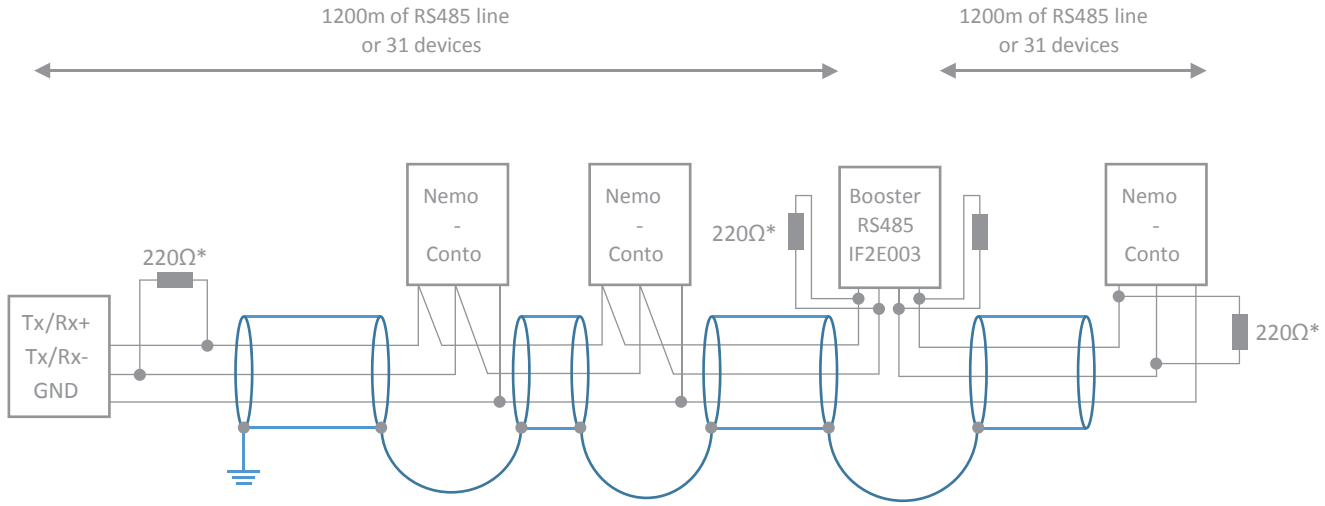


In the last few years the the increase in energy costs has led to greater attention being paid to consumption and the possibilities of carrying out work to save precious energy. Effective energy diagnosis showing consumption and pinpointing the possibilities of carrying out work to recover efficiency is essential for energy saving. The essential element to create it are the collection of the electrical parameter-related data and the transmission to supervision systems for the centralised management and processing of the measurements.

IME SpA offers a complete range of instruments to detect the consumption situation by cost centre and ways to scale them down for their memorisation on site or by means of centralised supervision software thus making all the data available to all the relevant parties such as the Energy Manager, Engineering Offices, ESCo or more simply to the manager of an apartment block who needs to divide up the costs of shared spaces among the various occupiers.

Creation of an RS485 line

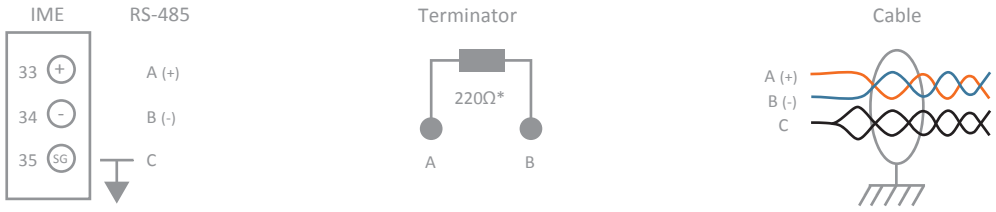
In order to minimise any interferences in the external environment with regard to the serial communication thereby obtaining maximum efficiency, it is necessary to adopt some small but essential technical features. The most important and the least difficult of all is the one of physically separating the supply or power cables from the communication ones and route them as far as possible from remote switches, moving iron and high power motors. This condition must also be complied inside the electric panel. For proper communication it is necessary to assign a unique node address (from 1 to 255) to the devices present on the line.



* Terminating resistor not supplied by us

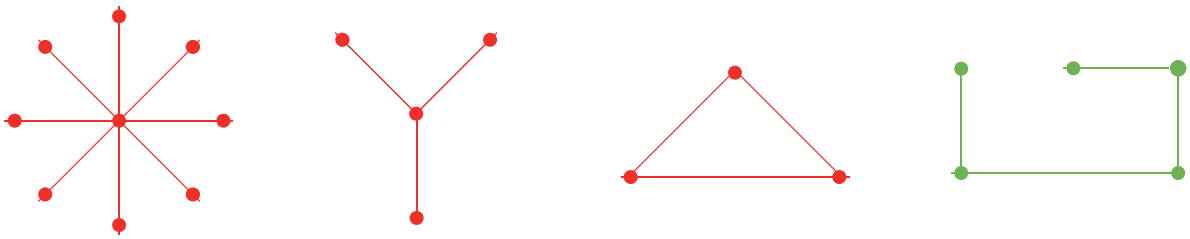
Terminals and type of cable

For the RS485 connections we recommend an AWG24-type twisted and shielded cable with suggested 120Ω impedance and minimum cross-section of 0,20mm². The maximum length contemplated for this type of serial line is 1200m at 9600 baud for up to 31 instruments connected serially. When this limit is reached, a repeater (IF2E003) must be connected to continue to add devices. Above all, for lines ≥200m long, it is necessary to fit 220Ω (carbon) termination resistors, at the ends of the line to avoid the signal reverberating and to guarantee proper communication. The maximum number of instruments in a single RS485 line is 255 + 8 repeaters.



What to avoid

Do not create networks with nodes, rings or branches that may cause interferences or malfunctioning, do not use cables with different cross sections in the same RS485 line, do not exceed the 1200m line limit or the 31 devices connected serially without using a IF2E003 repeater.



No No No **Yes**

Energy meters

Multi measurement unidirectional energy meters show active energy consumption (kWh) in class 1 EN/IEC 62053-21 and reactive energy (kvarh) in class 2 EN/IEC 62053-23 as well as the main electrical measurements on LCDs.

Conto D1 NT868

up to 10 kW on single phase networks

Direct-connected unidirectional energy meter on 1PH+N single phase networks
1 DIN module - 20mA starting current
True RMS of: kWh, kvarh, A, V, kW, kvar, kVA, cosφ, h

Code	Current	Voltage	Aux	Output
CE11165A4	up to 45A	230-240 V	Self supplied	RS485 Modbus RTU

Conto D2 NT765

up to 15 kW on single phase networks

Direct-connected unidirectional energy meter on 1PH+N single phase networks
2 DIN modules - 20mA starting current
True RMS of: kWh, A, V, kW, Hz, cosφ, h

Code	Current	Voltage	Aux	Output
CE20195A2	up to 63A	230-240 V	Self supplied	pulses
CE20195A4	up to 63A	230-240 V	Self supplied	RS485 Modbus RTU

Conto D4-Pd NT669

up to 40 kW on three phase networks

Direct-connected unidirectional energy meter on three phase 3PH/3PH+N networks
4 DIN modules - 40mA starting current
True RMS of: kWh, kvarh, A, V, kW, average kW, peak kW, kvar, kVA, Hz, cosφ, h

Code	Current	Voltage	Aux	Output
CE4DT06A2	up to 63A	400-415 V	Self supplied	pulses
CE4DT06A4	up to 63A	400-415 V	Self supplied	RS485 Modbus RTU
CE4DT06AM	up to 63A	400-415 V	Self supplied	M-Bus

Conto D4-Pt NT672

Any power on three phase networks

Direct-connected unidirectional energy meter on CT on 3PH/3PH+N networks
4 DIN modules - 20mA starting current
True RMS of: kWh, kvarh, A, V, kW, average kW, peak kW, kvar, kVA, Hz, cosφ, h

Code	Current	Voltage	Aux	Output
CE4DT14A2	from CT/5A - CT/1A	400-415 V	Self supplied	pulses
CE4DT14A4	from CT/5A - CT/1A	400-415 V	Self supplied	RS485 Modbus RTU
CE4DT14AM	from CT/5A - CT/1A	400-415 V	Self supplied	M-Bus

Energy efficiency

Multi measurement unidirectional energy meters suitable for applications for tax purposes.
They show active energy consumption (kWh) in class B EN 50740 MID certificate and reactive energy (kvarh) in class 2 EN/IEC 62053-23 as well as the main electrical measurements on LCDs.
Beginning of the operating hour counting linked to the starting current.

Conto D1 MID NT867

up to 10kW on single phase networks

Direct-connected unidirectional energy meter on 1PH+N single phase networks
1 DIN module - 20mA starting current
Display of just one energy counting (kWh)

Code	Current	Voltage	Aux	Output
CE1DMID12	up to 45A	230 V	Self supplied	pulses

Conto D2 MID NT788

up to 15 kW on single phase networks

Direct-connected unidirectional energy meter on 1PH+N single phase networks
2 DIN modules - 40mA starting current
True RMS of: kWh, A, V, kW, Hz, cosφ, h

Code	Current	Voltage	Aux	Output
CE2DMID12	up to 63A	230 V	Self supplied	pulses
CE2DMID11	up to 63A	230 V	Self supplied	RS485 Modbus RTU

Conto D4-Pd MID NT789

up to 40 kW on three phase networks

Direct-connected unidirectional energy meter on 3PH/3PH+N networks
4 DIN modules - 40mA starting current
True RMS of: kWh, kvarh, A, V, kW, average kW, peak kW, kvar, kVA, Hz, cosφ, h

Connection on 3PH+N networks

Code	Current	Voltage	Aux	Output
CE4DMID32	up to 63A	400 V	Self supplied	pulses
CE4DMID31	up to 63A	400 V	Self supplied	RS485 Modbus RTU
CE4DMID3M	up to 63A	400 V	Self supplied	M-Bus

Connection on 3PH networks

Code	Current	Voltage	Aux	Output
CE4DMID22	up to 63A	400 V	Self supplied	pulses
CE4DMID21	up to 63A	400 V	Self supplied	RS485 Modbus RTU

Conto D4-Pt MID NT742

Any power on three phase networks

Unidirectional energy meter on CT and possibly VT for 3PH/3PH+N networks
4 DIN modules - 10mA starting current
True RMS of: kWh, kvarh, A, V, kW, average kW, peak kW, kvar, kVA,Hz cosφ, h

Code	Current	Voltage	Aux	Output
CE4DMID01	from CT/5A	400 V or from VT	230 Vac	pulses + RS485 Modbus RTU

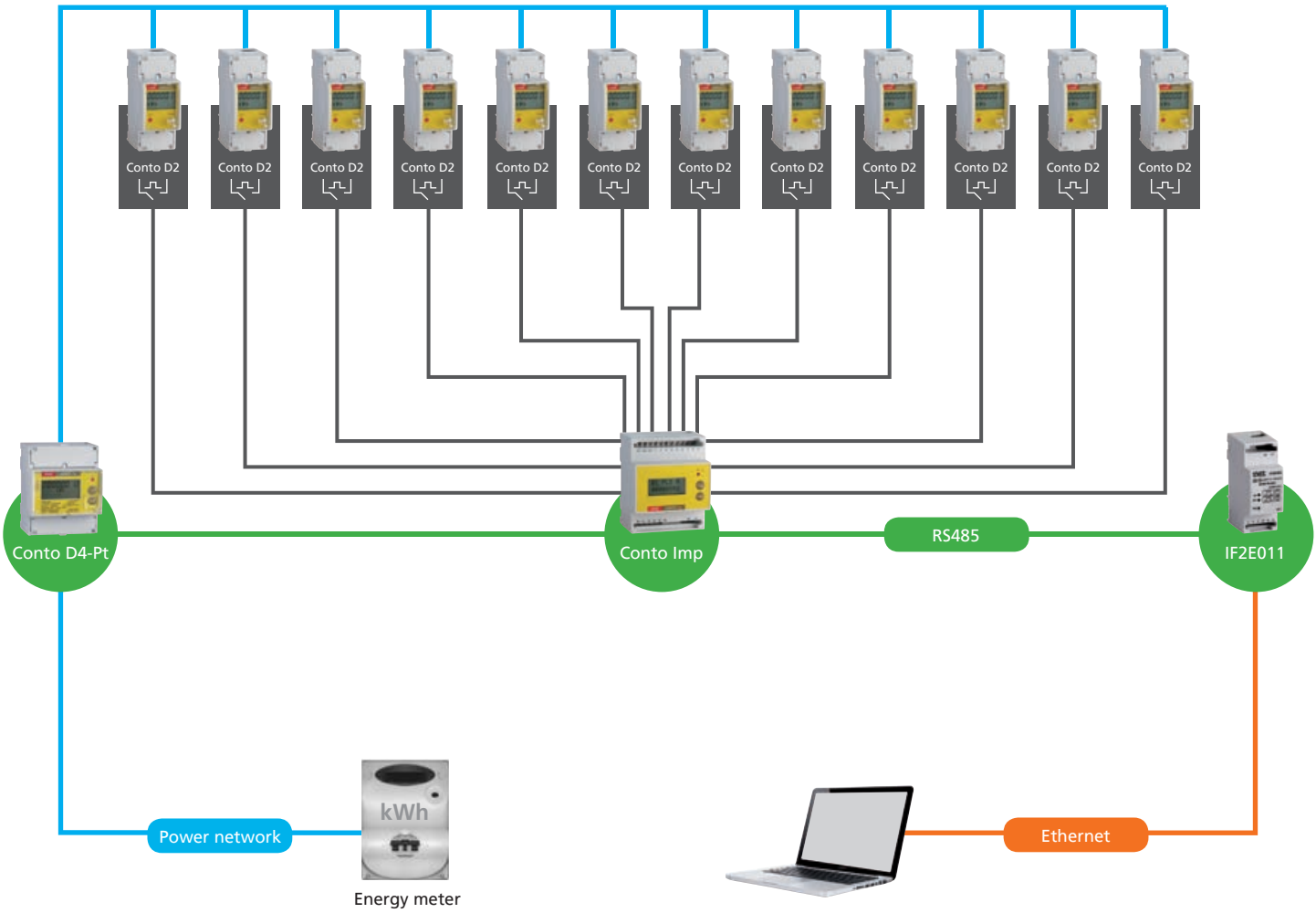
Energy monitoring with Conto imp

Energy monitoring system by mean of pulse output energy meters and concentrator able o collect up to 12 devices

Conto imp NT783

Concentrator of pulses from the electricity, water and gas meters

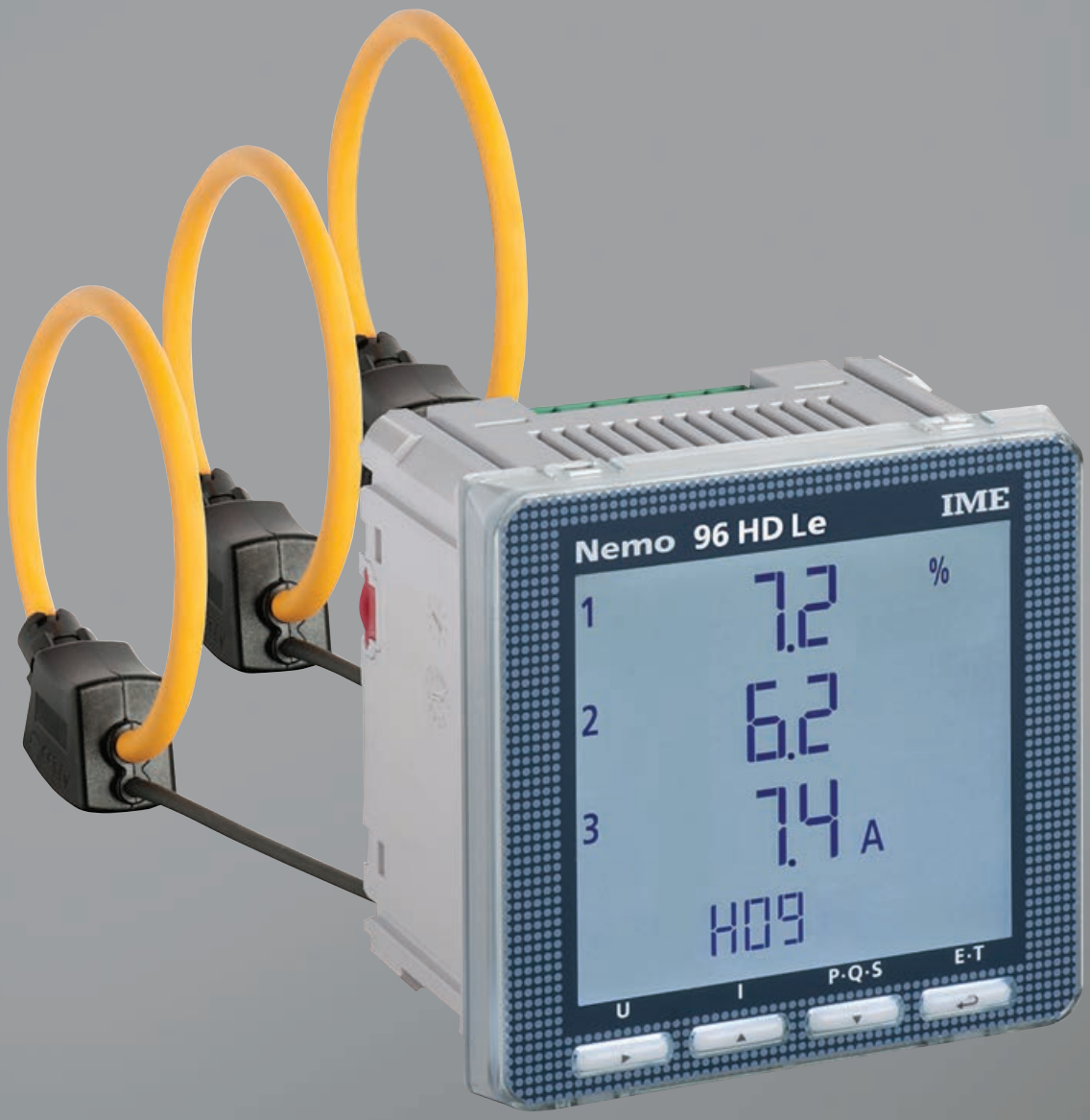
Code	Description	Aux	Output
IF4C001	Makes it possible to interface up to 12 gas, water and energy meters or devices with pulse output with data acquisition systems.	230 Vac	RS485 Modbus RTU



REVAMPING?
Rogowski kit!

KITS with Rogowski coils produced by IME SpA are the compact, versatile solution for the installation of new measurement points on systems in the industrial and service fields.
Available in the 4 module DIN version with Nemo D4-Le multifunction and 96x96mm flush mounting with Nemo 96 HDLe multifunction.

Rogowski coils with diameters of 80, 142 and 190mm are connected directly to the multifunction instrument without routing via other transducers and they can measure currents up to 5kA.



Find out more: http://www.imeitaly.com/uk/kit_rogowskiuk.asp

Multifunction instruments with harmonic analysis

Connection on the 1PH+N/3PH/3PH+N for LV networks through CT and VT (primary max 1kV)
Wide backlit 4 line LCD
Bidirectional active energy (kWh) counting in class 0.5 and reactive (kvarh) in class 1 according to EN/IEC 61557-12
Harmonic analysis for current and voltage up to 50th + crest factor
Counting threshold of operating hours that can be set in power
True RMS of: kWh, kvarh, A, V, kW, kvar, kVA, Hz cosφ, h, A, kW, kvar, kVA average value

Nemo D4-Le NT864

4 DIN modules

Code	Current	Voltage	Aux	Output
MFD4411	from CT/5A - CT/1A	80...500 V or from VT	80...265 Vac 100...300 Vdc	pulses or alarms
MFD4421	from CT/5A - CT/1A	80...500 V or from VT	80...265 Vac 100...300 Vdc	pulses or alarms + RS485 Modbus RTU/TCP
MFD44B1	from CT/5A - CT/1A	80...500 V or from VT	80...265 Vac 100...300 Vdc	pulses or alarms + RS485 BACnet

KIT Nemo D4-Le + Rogowski coils NT889

KIT ready for installation including 1 multifunction + 3 Rogowski coils
3 current ranges that can be selected on each KIT: 20...1000A, 60...3000A, 100...5000A

Code	Current	Voltage	Aux	Output
KRNEMOD4LE080	from Rogowski ø 80	80...500 V or from VT	80...265 Vac 100...300 Vdc	pulses or alarms + RS485 Modbus RTU/TCP
KRNEMOD4LE142	from Rogowski ø 142	80...500 V or from VT	80...265 Vac 100...300 Vdc	pulses or alarms + RS485 Modbus RTU/TCP
KRNEMOD4LE190	from Rogowski ø 190	80...500 V or from VT	80...265 Vac 100...300 Vdc	pulses or alarms + RS485 Modbus RTU/TCP

Nemo 72-Le NT879

flush mounting 72x72mm

Code	Current	Voltage	Aux	Output
MF72411	from CT/5A - CT/1A	80...500 V or from VT	80...265 Vac 100...300 Vdc	pulses or alarms
MF72421	from CT/5A - CT/1A	80...500 V or from VT	80...265 Vac 100...300 Vdc	pulses or alarms + RS485 Modbus RTU/TCP
MF724B1	from CT/5A - CT/1A	80...500 V or from VT	80...265 Vac 100...300 Vdc	pulses or alarms + RS485 BACnet

Nemo 96 HDLe NT854

flush mounting, 96x96mm - expandable with plug-in modules (page 11)

Code	Current	Voltage	Aux	Output
MF96411	from CT/5A - CT/1A	80...500 V or from VT	80...265 Vac 100...300 Vdc	pulses or alarms
MF96421	from CT/5A - CT/1A	80...500 V or from VT	80...265 Vac 100...300 Vdc	pulses or alarms + RS485 Modbus RTU/TCP

KIT Nemo 96 HDLe + Rogowski coils NT890

KIT ready for installation including 1 multifunction + 3 Rogowski coils
3 current ranges that can be selected on each KIT: 20...1000A, 60...3000A, 100...5000A

Code	Current	Voltage	Aux	Output
KRNEMOHDLE080	from Rogowski ø 80	80...500 V or from VT	80...265 Vac 100...300 Vdc	pulses or alarms + RS485 Modbus RTU/TCP
KRNEMOHDLE142	from Rogowski ø 142	80...500 V or from VT	80...265 Vac 100...300 Vdc	pulses or alarms + RS485 Modbus RTU/TCP
KRNEMOHDLE190	from Rogowski ø 190	80...500 V or from VT	80...265 Vac 100...300 Vdc	pulses or alarms + RS485 Modbus RTU/TCP

Multifunction instruments expandable with plug-in modules

Connected on lines 1PH+N/3PH/3PH+N for LV/MV networks
Wide four-line backlit LCD
Bidirectional active energy (kWh) counting in class 0.5 and reactive (kvarh)
in class 1 according to EN/IEC 61557-12
Counting threshold of operating hours that can be set in power
True RMS of: kWh, kvarh, A, V, kW, kvar, kVA, Hz cosφ, h mean values of A, kW, kvar, kVA

Nemo 96 HD NT680

Connected on LV networks by means of CT and VT (primary max 1kV)
flush mounting 96x96mm

Code	Current	Voltage	Aux	Output
MF96001	from CT/5A - CT/1A	80...500 V or from VT	80...265 Vac 110...300 Vdc	MD*

* MD = Plug-in modules

Nemo 96 HD+ NT681

Connected on LV/MV networks by means of CT and VT
flush mounting 96x96mm

Code	Current	Voltage	Aux	Output
MF96021	from CT/5A - CT/1A	80...690 V or from VT	80...265 Vac 110...300 Vdc	MD*

* MD = Plug-in modules

Plug-in modules

The purpose of the plug-in modules is to add new functions to the Nemo 96 HD/HD+/HDLe models such as communication outputs, analogue outputs, alarms and memory.

Code	Description	HD	HD+	HDLe	Technical note
IF96001	RS485 Modbus RTU/TCP	•	•	•	NT675
IF96007A	Profibus EN50170 - DP0 up to 12Mb	•	•	•	NT682
IF96009	LonWorks – FTT10	•	•	•	NT684
IF96013	M-Bus EN1434-3	•	•	•	NT707
IF96014	RS485 BACnet MS-TP	•	•	•	NT743
IF96015	Ethernet RJ45	•	•	•	NT785
IF96012	RS485 Modbus RTU/TCP + memory	•	•	•	NT704
IF96018	Radio transmitter module 868 MHz[1]		•		NT856
IF96003	2 energy pulse outputs (SPST)	•	•		NT677
IF96004	2 x 0/4..20mA analogue outputs	•	•		NT678
IF96005	2 alarm relay outputs (SPST)	•	•		NT679
IF96017	harmonic analysis up to 50° order[2]		•		NT855
IF96016	Temperature measurement 2 inputs from PT100	•	•		NT810

[1] Complete with power unit, pen-type steerable aerial plus extension cable of 20cm. NB a transceiver gateway IFMTR01 must be provided (page. 12).
[2] Harmonic analysis up to 50th available on the RS485 communication Modbus RTU/TCP combined with module IF96001

Communication interfaces

Interfaces that allow the conversion of communication protocols, useful for creating monitoring systems

IF for RS485/USB communication NT892

USB-RS485 converter interface allows the direct connection to a PC of the Conto energy meters and Nemo multifunctions with RS485 output. Recommended exclusively for local use. Useful for programming on site and the downloading of data from the storage module IF96012 (page 11) combined with the free IDM Evolution software (page 13) that can be downloaded from the site.

Code	Input	Output	Aux
IFUSB01	RS485	USB	Self supplied

IF for RS485/Ethernet communication NT809

Ethernet-RS485 converter interface, 2 DIN modules, makes it possible to interface Conto energy meters and Nemo multifunctions to an Ethernet network 10/100MB. Direct connection up to 31 devices on the RS485 line or up to 255 devices using repeaters. Two methods of Bridge functioning (ModbusRTU or Over TCP) or Web Server functioning for the reading of the main parameters and relative download in csv format through an ordinary Internet browser.

Code	Input	Output	Aux
IF2E011	RS485	Ethernet RJ45	80...270 Vac + 100...300 Vdc

IF for RS485/Radio 868 MHz communication NT862

The interfaces for communication via Radio 868 MHz make it possible to convert the data received via RS485 from Nemo and Conto instruments (up to 31 per IF2ER01 interface) into a radio signal that is led to the IFMTR01 gateway transceiver. In its turn, the gateway that can receive signals from IF96018 (page 11) as well, fitted on the Nemo 96 HD+, converts the radio signal into Ethernet thus making the data available on LANs or Internet.

Code	Input	Output	Aux
IF2ER01	RS485	868 MHz radio	9...30 Vdc
IFMTR01	868 MHz radio	Ethernet RJ45	9...30 Vdc + 230 Vac

RS485/RS485 repeater interface NT694

RS485-RS485 repeater interface, 2 DIN modules, makes it possible to amplify the signal for another 31 devices over a distance of 1200m connected on the same RS485 line

Code	Input	Output	Aux
IF2E003	RS485	RS485	80...270 Vac + 100...300 Vdc

Display and data storage

Software and interfaces for completing the monitoring network, making the configuration from a remote position, displaying the measurements read and making a report of the energy consumptions.

IDM Evolution

Management SW for local and/or remote monitoring networks with Conto and Nemo multifunction meters.
It allows the real time display of the measurements taken by the devices on site and the remote programming for all the instruments and interfaces of the Nemo series and for Conto imp. Installation on PC for workstation operating systems Windows XP, SP3, Windows 7 32 and 64 bit, Windows 8 32 and 64 bit and Windows 8.1 32 and 64 bit

Free download: http://www.imeitaly.com/uk/idmevouk.asp

IF with built-in datalogger NT891

Ethernet-RS485/Datalogger multisession converter interface (up to 4), 4 DIN modules makes it possible to interface Conto and Nemo multifunction meters to an Ethernet 10/100 MB network. Direct connection up to 31 devices on the RS485 line or up to 255 devices using repeaters. Two methods of Bridge (Modbus RTU or TCP) or Datalogger function for storing energy data for each device connected and on request generating consumption reports for a period selected with the possibility of delivery to the system administrator by mail.
In this configuration it is possible to manage up to 64 different energy meters/multifunction and users with individual access to a system administrator.

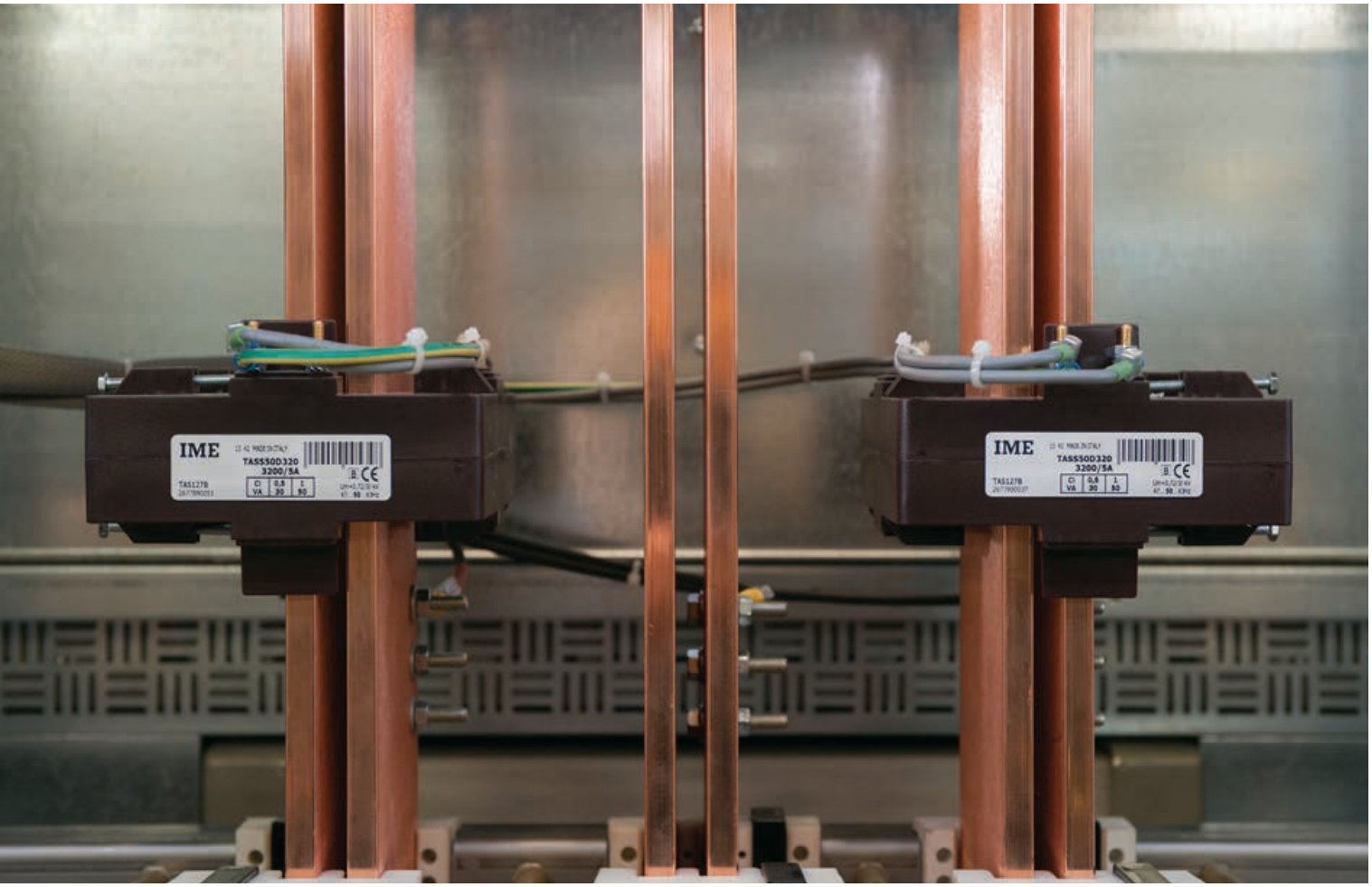
Code	Input	Output	Aux
IF4E011	RS485	Ethernet RJ45	80...270 Vac 100...300 Vdc

MIDAs Evo NT851

Management SW for local and/or remote monitoring networks with Conto and Nemo multifunction meters. It enables realtime display of the measurements read by the devices on site and the creation of daily/monthly/annual consumption reports for tariffs that can be set beforehand. Possibility of setting software alarm thresholds with the sending of an email. Installation on the PC with workstation Windows XP SP3, Windows 7 32 and 64bit, Windows 8 32 and 64bit, Windows 8.1 32 and 64bit operating systems.

Code	Instruments managed
SWMF2	5
SWMF3	20
SWMF5	100
SWMF4	1020

MIDAs Evo can be updated free of charge to the latest release available by connecting to page http://www.imeitaly.com/uk/midasevouk.asp



Low voltage transformers

When taking industrial electrical measurements they are the first link in the measurement chain. Current transformers make it possible to work back to the precise current value applied to the primary through the measurement of the secondary current.
They are used from the simplest applications with analogic indicators to the most complex where the use of transducers, energy meters or multifunction instruments is contemplated and, finally, in monitoring systems.

To choose the CT properly you need to know:

I System rated current
This is used to determine the transformer's primary current, e.g.:
System rated current: 425A = CT 500/5A

I Power bar/cable size
This makes it possible to choose a CT with a window that is large enough to pass the phase bar/ cord through, the tendency is always to choose a slightly bigger window so as to have a little play that is useful during installation, e.g.:
Cord of 120mm^2 (max. outer diam. 21.5mm) = I choose model TA327 with ø27mm hole.

I Measurement class
Classes 0.5/1 recommended for measuring power, electricity and cosφ
Class 3 to be used for current measures on ammeters only

I Performance (VA)
This represents the maximum load that can be connected to the secondary terminals of the CT.
The load consists of the self consumption of the measurement instrument + adsorption of the cables connecting the CT and the instrument.
This latter depends on the length and cross-section of the cable.

For the functioning of a certain measurement class, the maximum load must always be lower or equal to the performance/ rated class of the CT.
The following is a table for calculating the absorption of the cables connecting the CT and the instrument.

Power absorbed (VA) by the cables connecting the CT and the instrument		
cross section mm^2 copper	*VA per meter of bipolar cable at 20°C	
	secondary 5A	secondary 1A
1	1	0.04
1.5	0.685	0.0274
2.5	0.41	0.0164
4	0.254	0.0102
6	0.169	0.0068
10	0.0975	0.0039
16	0.062	0.0025

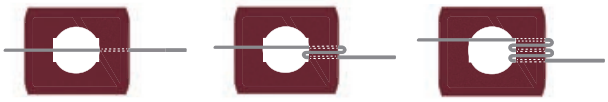
* The VA absorbed by the connection cables rises 4% for every 10% variation in the temperature

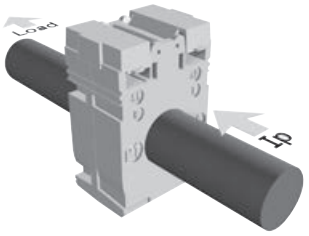
CT/5A or CT/1A?

From the table shown above, it can be seen that using the same cross section the CT/1A absorbs 25 times less than the CT/5A because of the very long sections (≥20m). You are advised to choose a CT/1A so as to reduce the section and relative cost of the cables as well as ensuring more precise reading.

CT with cable/passing bar (Primary currents: 40...8000A)

By making several passages (turns) of the cable inside the transformer, it is possible to reduce the value of the primary current while keeping the unchanged secondary current values, performances, class (actual primary current = rated primary current: n° of turns; example 150/5A with 2 cable passages = 75/5A with 3 cable passages = 50/5A)





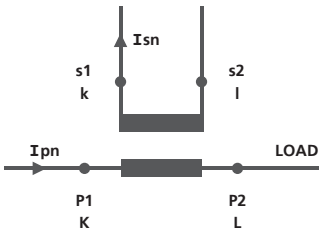
CT with primary winding (Primary currents: 5...600A)

Open core CT (Primary currents: 60...5000A)

Ideal for being installed in existing systems, they can be installed without breaking the primary circuit or modifying the system.

CT connections

The terminals of current transformers are marked with double wording:
Primary circuit P1(K) - P2(L)
Secondary circuit s1(k) - s2(l)



1

Some models have also been fitted with arrows indicating the proper way of CT connection on the cable/bar to avoid current inversion errors.

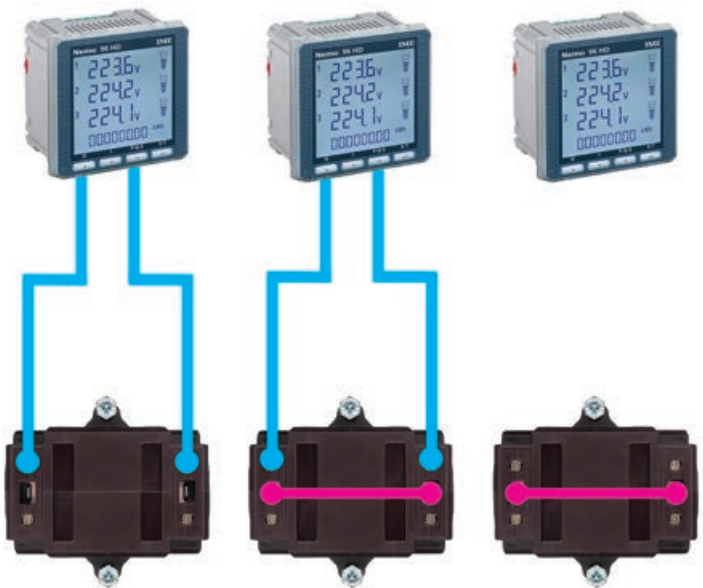
2

The secondary terminals, depending on the models, might be nut tightening, screws, double faston + screw, the latter useful for short circuiting the CT secondary before disconnecting the devices to avoid dangerous voltages generated by the opening of the circuit (no-load operation).

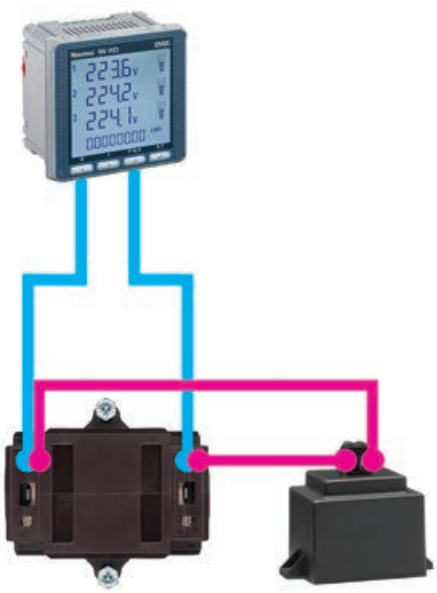
3

In any event, to avoid this situation for all current transformers, IME suggest a fully static accessory (ATAP015) able to instantly reclose the CT secondary circuit, which was open due to connection breakdown or device removal, allowing the instantaneous and automatic restore of standard conditions.
Secondary terminal protection degree IP20 (for the TAS... TAU... TAQ... BSA... models only with the use of the sealable terminal cover accessory).

2



3



LOW VOLTAGE TRANSFORMERS

Cable/ passing bar





Model	TAIBB			TA221				TA327				TA432				TA540			
Technical Note	NT516			NT811				NT812				NT814				NT815			
Type	passing primary			passing primary				passing primary				passing primary				passing primary			
Width (mm)	44			49.5				56				70				70			
Height (mm)	65			80				80				95				95			
Cable (mm)	Ø21			Ø21				Ø27				Ø32				Ø40			
Window (mm)	16x12.5			20.5x10.5				25.5x15.5 32.5x10.5				25.5x25.5 32.5x20.5 40.5x10.5				40.5x20.5 50.5x12.5			
Ratio	Code	VA		Code	VA			Code	VA			Code	VA			Code	VA		
		cl.0.5	cl.1	cl.3		cl.0.5	cl.1	cl.3		cl.0.5	cl.1	cl.3		cl.0.5	cl.1			cl.0.5	cl.1
40/5A	TABB50B400			1															
50/5A	TABB50B500		1	1.5	TA22150B500			2.5	TA32750B500			1.5							
60/5A	TABB50B600		1	2	TA22150B600		1.5	3	TA32750B600			2.5							
75/5A	TABB50B750		1.5	2.5	TA22150B750		2	4	TA32750B750		1.5	3							
80/5A	TABB50B800		1.5	2.5	TA22150B800		3	4	TA32750B800		2.5	3.5							
100/5A	TABB50C100	1.5	2.5		TA22150C100	2.5	4		TA32750C100	1.5	3		TA43250C100		2				
120/5A	TABB50C120	2	3.5		TA22150C120	2.5	4		TA32750C120	2	3.5		TA43250C120		2				
125/5A	TABB50C125	2	3.5		TA22150C125	2.5	4		TA32750C125	2	3.5		TA43250C125		2				
150/5A	TABB50C150	3	4		TA22150C150	4	6		TA32750C150	3	4		TA43250C150	1	3				
160/5A	TABB50C160	3	4		TA22150C160	4	6		TA32750C160	3	5		TA43250C160	1.5	3				
200/5A	TABB50C200	4	5.5		TA22150C200	6	8		TA32750C200	4	7		TA43250C200	3	5				
250/5A	TABB50C250	5	6		TA22150C250	8	10		TA32750C250	6	8		TA43250C250	3	5				
300/5A	TABB50C300	6	7.5		TA22150C300	8	10		TA32750C300	8	10		TA43250C300	5	8	TA54050C300	2	4	
400/5A									TA32750C400	10	12		TA43250C400	8	10	TA54050C400	4	6	
500/5A									TA32750C500	12	15		TA43250C500	10	12	TA54050C500	4	6	
600/5A									TA32750C600	15	20		TA43250C600	12	15	TA54050C600	6	8	
800/5A													TA43250C800	10	12	TA54050C800	8	12	
1000/5A													TA43250D100	12	15	TA54050D100	10	12	
1200/5A																TA54050D120	12	15	
Sealable terminal cover	ATACOP12				ATACOP13				ATACOP13				ATACOP13			ATACOP13			

Cable/ passing bar





Model	TAS64			TAS65			TAS84			TAS102			TAS127B		
Technical Note	NT569			NT518			NT574			NT766			NT523		
Type	passing primary			passing primary			passing primary			passing primary			passing primary		
Width (mm)	90			90			96			98			125		
Height (mm)	130			94			116			129			160		
Window (mm)	51x31 64x11			32x65			34x84			38x102			54x127		
Ratio	Code	VA		Code	VA		Code	VA		Code	VA		Code	VA	
		cl.0.5	cl.1		cl.0.5	cl.1		cl.0.5	cl.1		cl.0.5	cl.1		cl.0.5	cl.1
600/5A	TASI50C600	4	6	TASL50C600	8	12	TASO50C600	6	10						
800/5A	TASI50C800	6	8	TASL50C800	12	15	TASO50C800	8	12						
1000/5A	TASI50D100	8	10	TASL50D100	15	20	TASO50D100	10	15	TAMP50D100	10	12			
1200/5A	TASI50D120	10	12	TASL50D120	15	20	TASO50D120	12	15	TAMP50D120	12	15			
1250/5A	TASI50D125	10	12	TASL50D125	15	20	TASO50D125	12	15	TAMP50D125	12	15			
1500/5A	TASI50D150	10	12	TASL50D150	20	25	TASO50D150	15	20	TAMP50D150	12	15	TASS50D150	20	30
1600/5A	TASI50D160	10	12	TASL50D160	20	25	TASO50D160	15	20	TAMP50D160	12	15	TASS50D160	20	30
2000/5A				TASL50D200	20	25	TASO50D200	20	25	TAMP50D200	20	25	TASS50D200	25	30
2500/5A							TASO50D250	25	30	TAMP50D250	20	25	TASS50D250	30	50
3000/5A										TAMP50D300	20	25	TASS50D300	30	50
4000/5A													TASS50D400	30	50
Sealable terminal cover	ATACOP03			ATACOP04			ATACOP04			ATACOP04			ATACOP04		

In stock also in the version with terminals on the long side.
Ordering code: add "3" at the end of the standard code.

Open core CT



Model	TRA230			TRA580			TRA812				TRA816		
Technical Note	NT869			NT841			NT842				NT863		
Type	open core CT			open core CT			open core CT				open core CT		
Width (mm)	92			120			150				185		
Height (mm)	110			150			190				230		
Window (mm)	20.5x30.5			50.5x80.5			80.5x120.5				80.5x160.5		
Ratio	Code	VA			Code	VA		Code	VA			Code	VA	
		cl.0.5	cl.1	cl.3		cl.0.5	cl.1		cl.0.5	cl.1	cl.3		cl.0.5	cl.1
60/5A	TA23050B600			1										
100/5A	TA23050C100			1.5										
150/5A	TA23050C150		1.5	2.5										
200/5A	TA23050C200	1	2.5											
250/5A	TA23050C250	1.5	3		TA58050C250	1	2							
300/5A	TA23050C300	1.5	4		TA58050C300	1.5	3							
400/5A	TA23050C400	2.5	6		TA58050C400	1.5	3							
500/5A					TA58050C500	2.5	5	TA81250C500		4	12			
600/5A					TA58050C600	2.5	5	TA81250C600		5	14			
800/5A					TA58050C800	3	7	TA81250C800	3	7				
1000/5A					TA58050D100	5	10	TA81250D100	5	10				
1200/5A								TA81250D120	6	11				
1500/5A								TA81250D150	8	15				
2000/5A												TA81650D200	15	20
2500/5A												TA81650D250	15	20
3000/5A												TA81650D300	20	25
4000/5A												TA81650D400	20	25
5000/5A												TA81650D500	20	25
Sealable terminal cover	ATACOP13				ATACOP13			ATACOP13				ATACOP13		

Primary winding


Model	TAQ2M			TAQ6M			TAQ2L			TAQ6L		
Technical note	NT881			NT883			NT882			NT884		
Width (mm)	56											
Height (mm)	80											
Primary terminals	screw type, max. cross section 6mm²/10mm² with wire terminals						M6 with nut tightening					
Ratio	Code	VA		Code	VA		Code	VA		Code	VA	
		cl.0.5	cl.1		cl.0.5	cl.1		cl.0.5	cl.1		cl.0.5	cl.1
5/5A	TAQ2M50A500	2	4	TAQ6M50A500	6	7.5						
10/5A	TAQ2M50B100	2	4	TAQ6M50B100	6	7.5						
15/5A	TAQ2M50B150	2	4	TAQ6M50B150	6	7.5						
20/5A	TAQ2M50B200	2	4	TAQ6M50B200	6	7.5						
25/5A	TAQ2M50B250	2	4	TAQ6M50B250	6	7.5						
30/5A	TAQ2M50B300	2	4	TAQ6M50B300	6	7.5						
40/5A	TAQ2M50B400	2	4	TAQ6M50B400	6	7.5						
50/5A							TAQ2L50B500	2	4	TAQ6L50B500	6	7.5
60/5A							TAQ2L50B600	2	4	TAQ6L50B600	6	7.5
75/5A							TAQ2L50B750	2	4	TAQ6L50B750	6	7.5
80/5A							TAQ2L50B800	2	4	TAQ6L50B800	6	7.5
100/5A							TAQ2L50C100	2	4			
Sealable terminal cover	ATACOP13			ATACOP13			ATACOP13			ATACOP13		

The range of Delta modular, flush mounting and residual current relay in combination with ring current transformers Del and Del A (open core type), has the aim of protecting people and property while assuring system continuity of service.

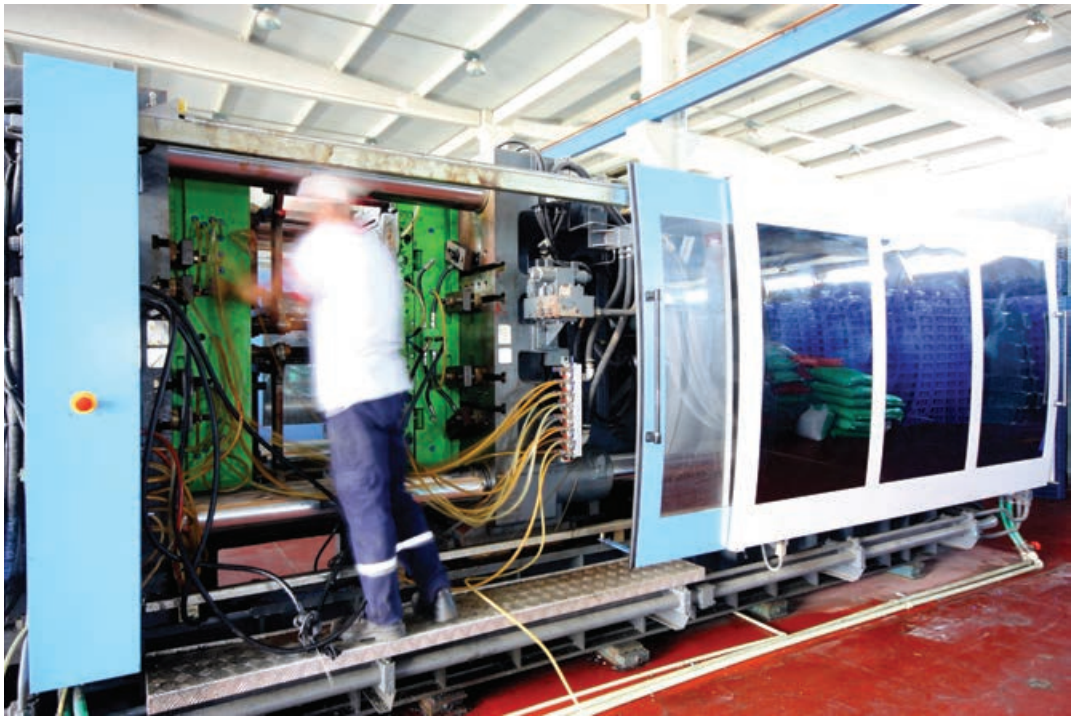
Ideal for use in the industrial and service sectors, in public lighting and in building automatic machines, they comply with standards of protection CEI EN standard 60947-2 appendices B and M class A, anyway compatible with pulsing currents (thus with continuous components).

The Δt intervention time adjustment makes this series ideal for the creation of selective protection systems; adjustment in IΔn current makes it possible to protect people and property against undesired or dangerous dispersions.

An important feature of the Delta series is the permanent control of the connection circuit between E.L.R. and ring C.T.: by detecting of any anomaly in the connection between ring C.T. and E.L.R., the protection automatically intervenes, without waiting for the periodic check to carry out by test push button.

With the evolution of system requirements and the introduction into the systems of devices fitted with power electronics, the F models have been created with harmonic filter for systems that are subject to considerable disruption.

Experience and awareness of this issue as well as the care in construction has endowed the Delta series that has been monitoring and protecting the LV networks of customers since 1980, with outstanding quality and reliability.



Residual current relays

Class A EN60947-2:2007 appendix B and M - edition 8, IΔn ranges that can be selected from 0.03 to 30A.
All the relays can be used in positive or negative safety mode that can be selected and they carry out the automatic permanent test of continuity of the connection to the differential ring transformer (Del - Del A).

Delta D2-L NT544

2 DIN modules - manual or automatic reset (3 attempts) that can be selected

Code	1st relay	2nd relay	Aux
RD1AF13B	TRIP	-	230 Vac
RD1AF1HB	TRIP	-	20...150 Vdc + 48 Vac

Delta D4-s NT871

4 DIN modules - manual or automatic reset (10 attempts) that can be selected - LED bar indicator IΔn%

Code	1st relay	2nd relay	Aux
RD4B213B	TRIP	TRIP or pre-alarm 50% IΔn	230 Vac
RD4B21HB	TRIP	TRIP or pre-alarm 50% IΔn	20...150 Vdc + 48 Vac

Delta D4-h NT897

4 DIN modules - manual or automatic reset that can be selected - LED Display indicator IΔn

Code	1st relay	2nd relay	Aux	Output
RDD42130	TRIP	TRIP or pre-alarm max 50% IΔn	230 Vac	
RDD421H0	TRIP	TRIP or pre-alarm max 50% IΔn	20...150 Vdc + 48 Vac	
RDD42131	TRIP	TRIP or pre-alarm max 50% IΔn	230 Vac	RS485 Modbus RTU/TCP
RDD421H1	TRIP	TRIP or pre-alarm max 50% IΔn	20...150 Vdc + 48 Vac	RS485 Modbus RTU/TCP

Delta 48-s NT556

Flush mounting 48x48mm - manual or automatic reset (3 attempts) that can be selected

Code	1st relay	2nd relay	Aux
RD1DF13B	TRIP	-	230 Vac
RD1DF1HB	TRIP	-	20...150 Vdc + 48 Vac

Delta 72-s NT552

Flush mounting 72x72mm - manual or automatic reset (3 attempts) that can be selected - LED bar indicator IΔn%

Code	1st relay	2nd relay	Aux
RD1EP13B	TRIP	pre-alarm at 50% IΔn	230 Vac
RD1EP1HB	TRIP	pre-alarm at 50% IΔn	20...150 Vdc + 48 Vac

Delta 72-h NT649

Flush mounting 72x72mm - manual reset - LED Display indicator IΔn

Code	1st relay	2nd relay	Aux
RD3E217B	TRIP	TRIP or pre-alarm 50% IΔn	230 Vac
RD3E21HB	TRIP	TRIP or pre-alarm 50% IΔn	20...150 Vdc + 48 Vac

Delta 96-s NT691

Flush mounting 96x96mm - manual reset - LED bar indicator IΔn%

Code	1st relay	2nd relay	Aux
RD1G213B	TRIP	TRIP or pre-alarm 50% IΔn	230 Vac
RD1G21HB	TRIP	TRIP or pre-alarm 50% IΔn	20...150 Vdc + 48 Vac

Residual current relays with strengthened harmonic filter

Class A EN60947-2:2007 appendix B and M - edition 8, IΔn ranges that can be selected from 0.05 to 30A. The strengthened harmonic filter makes it possible to avoid untimely tripping in systems subject to considerable harmonic disturbances All the relays can be used in positive or negative safety mode that can be selected and they carry out the automatic permanent test of continuity of the connection to the differential toroid (Del - Del A).

Delta D4-F NT865

4 DIN modules - manual reset - LED bar indicator IΔn%

Code	1st relay	2nd relay	Aux
RD3B213B	TRIP	pre-alarm at 50% IΔn or on power fail	230 Vac
RD3B21HB	TRIP	pre-alarm at 50% IΔn or on power fail	20...150 Vdc + 48 Vac

Delta 72-F NT745

Flush mounting 72x72mm - manual reset - LED bar indicator IΔn%

Code	1st relay	2nd relay	Aux
RD2E213B	TRIP	TRIP or pre-alarm 50% IΔn	230 Vac
RD2E21HB	TRIP	TRIP or pre-alarm 50% IΔn	20...150 Vdc + 48 Vac

Delta 96-F NT746

Flush mounted 96x96mm - manual reset - LED bar indicator IΔn%

Code	1st relay	2nd relay	Aux
RD2G213B	TRIP	TRIP or pre-alarm 50% IΔn	230 Vac
RD2G21HB	TRIP	TRIP or pre-alarm 50% IΔn	20...150 Vdc + 48 Vac

Accessories

Delta TCS NT817

4 DIN modules - Monitor of switch release circuit with current launch coil, monitoring of 1 or 2 circuits that can be selected with voltage between 24...440 Vac/Vdc

Code	No. of circuits	Exchange contacts on output	Aux
ARD003	1/2 that can be selected	2	230 Vac
ARD00H	1/2 that can be selected	2	20...150 Vdc + 48 Vac

Del NT641

Close-core ring current transformers

Code	Ø Hole	IΔn min*
TDGA2	28mm	0.03A
TDGB2	35mm	0.03A
TDGH2	60mm	0.03A
TDGC2	80mm	0.03A
TDGD2	110mm	0.1A
TDGE2	140mm	0.3A
TDGF2	210mm	0.3A

*IΔn minimum settable on the residual current relays with which the chosen ring current transformer will be combined

Del A NT641

Open-core ring current transformers

Code	Ø Hole	IΔn min*
TDAA2	110mm	0.5A
TDAB2	150mm	0.5A
TDAC2	300mm	1A

AC/DC lines
10A/500V, CT/VT direct connection or 50/400Hz in frequency

Multi-range digital indicators for connection on AC/DC networks



Model	DGP 36 P2k		DGQ 72 P2k		DGQ 96 P2k	
Technical note	NT874		NT877		NT878	
Sizes	72x36x108mm		72x72x108mm		96x96x108mm	
Input	direct up to 10Aac/dc - 500Vac/dc, from CT or from VT - frequency 50/400 Hz					
Progr. display.	±1999 - measurement units as per Note 1					
Aux	230 Vac	20...60 Vac 20...150 Vdc	230 Vac	20...60 Vac 20...150 Vdc	230 Vac	20...60 Vac 20...150 Vdc
Code	DG3P06P5	DG3P0MP5	DG8P06P5	DG8P0MP5	DG9P06P5	DG9P0MP5

DC field sensors mA/mV/V

Digital multi-range indicators for connection on transducers, shunts and field sensors



Model	DGP 36 P2k		DGQ 72 P2k		DGQ 96 P2k	
Technical note	NT850		NT852		NT853	
Sizes	72x36x108mm		72x72x108mm		96x96x108mm	
Input	from field signals 1/5/10/20/4...20mA - 50/60/75/100/150mV - 1/5/10V					
Progr. display.	±1999 - measurement units as per Note 1					
Aux	80...270 Vac 100...300 Vdc	20...60 Vac 20...150 Vdc	80...270 Vac 100...300 Vdc	20...60 Vac 20...150 Vdc	80...270 Vac 100...300 Vdc	20...60 Vac 20...150 Vdc
Code	DG3P0NP1	DG3P0MP1	DG8P0NP1	DG8P0MP1	DG9P0NP1	DG9P0MP1

AC/DC line and DC field sensors

Digital multi-range indicators for connection on AC/DC lines or on transducers, shunts and field sensors


Model	DGP 96		DGP 96 P2k		DGP 96 P10k	
Technical note	NT533		NT530		NT550	
Sizes	96x48x103mm		96x48x103mm		96x48x103mm	
Input	from CT/5A - 500Vac		0.5...20/4...20mA - 50...200mV - 5/20/200V		0.5...20/4...20mA - 50...200mV - 5/20/200V	
Progr. display.	999 - - measurement units as per Note 2		±1999 - measurement units as per Note 1		9999 - - measurement units as per Note 1	
Aux	230 Vac	20...150 Vdc + 48 Vac	230 Vac	20...150 Vdc + 48 Vac	230 Vac	20...150 Vdc + 48 Vac
Code	DG4G06C1	DG4G0HC1	DG4P06P2	DG4P0HP2	DG4Q06P2	DG4Q0HP2

Note 1 - adhesive label with the following units A, V, °C, %, W, Hz, kW, MW, kg, bar, var, kvar, Mvar, RPM, m/min, rpm/min, kg/cm^2, m^3/h, kA, kV, mA, mV, m, m/h.
Other engineering units on request

Note 2 - adhesive label wih the following units A, V, kA.

ANALOGUE INDICATORS

Ammeters



Model		RQ48E	RQ72E	RQ96E
Technical Note		NT755	NT755	NT755
Size		48x48mm	72x72mm	96x96mm
Equipment		moving iron-type	moving iron-type	moving iron-type
Connection		on transformers /5A	on transformers /5A	on transformers /5A
Accuracy		1.5	1.5	1.5
CT ratio	Scale 0…In	Code	Code	Code
5/5A	0…5A	AN12D1A500	AN22D1A500	AN32D1A500
10/5A	0…1A	AN1251B100	AN2251B100	AN3251B100
15/5A	0…15A	AN1251B150	AN2251B150	AN3251B150
20/5A	0…20A	AN1251B200	AN2251B200	AN3251B200
25/5A	0…25A	AN1251B250	AN2251B250	AN3251B250
30/5A	0…30A	AN1251B300	AN2251B300	AN3251B300
40/5A	0…40A	AN1251B400	AN2251B400	AN3251B400
50/5A	0…50A	AN1251B500	AN2251B500	AN3251B500
60/5A	0…60A	AN1251B600	AN2251B600	AN3251B600
75/5A	0…75A	AN1251B750	AN2251B750	AN3251B750
80/5A	0…80A	AN1251B800	AN2251B800	AN3251B800
100/5A	0…100A	AN1251C100	AN2251C100	AN3251C100
120/5A	0…120A	AN1251C120	AN2251C120	AN3251C120
125/5A	0…125A	AN1251C125	AN2251C125	AN3251C125
150/5A	0…150A	AN1251C150	AN2251C150	AN3251C150
160/5A	0…160A	AN1251C160	AN2251C160	AN3251C160
200/5A	0…200A	AN1251C200	AN2251C200	AN3251C200
250/5A	0…250A	AN1251C250	AN2251C250	AN3251C250
300/5A	0…300A	AN1251C300	AN2251C300	AN3251C300
400/5A	0…400A	AN1251C400	AN2251C400	AN3251C400
500/5A	0…500A	AN1251C500	AN2251C500	AN3251C500
600/5A	0…600A	AN1251C600	AN2251C600	AN3251C600
800/5A	0…800A	AN1251C800	AN2251C800	AN3251C800
1000/5A	0…1000A	AN1251D100	AN2251D100	AN3251D100
1200/5A	0…1.2kA	AN1251D120	AN2251D120	AN3251D120
1250/5A	0…1.25kA	AN1251D125	AN2251D125	AN3251D125
1500/5A	0…1.5kA	AN1251D150	AN2251D150	AN3251D150
1600/5A	0…1.6kA	AN1251D160	AN2251D160	AN3251D160
2000/5A	0…2kA	AN1251D200	AN2251D200	AN3251D200
2500/5A	0…2.5kA	AN1251D250	AN2251D250	AN3251D250
3000/5A	0…3kA	AN1251D300	AN2251D300	AN3251D300
4000/5A	0…4kA	AN1251D400	AN2251D400	AN3251D400

In stock even in version with full scale value at the end 2In and 5In.

Code: replace the 6th figure of the standard code with “2” and “5” respectively.

Voltmeters



Model		RQ48E	RQ72E	RQ96E
Technical Note		NT759	NT759	NT759
Size		48x48mm	72x72mm	96x96mm
Equipment		moving iron-type	moving iron-type	moving iron-type
Connection		Direct	Direct	Direct
Accuracy		1.5	1.5	1.5
Range	Scale	Code	Code	Code
300V	0…300V	AN15DDC300	AN25DDC300	AN35DDC300
500V	0…500V	AN15DDC500	AN25DDC500	AN35DDC500

Transducers for alternating voltage and current

Compact transducers in 2 DIN module format, alternating voltage and current measurement with accuracy in class 0.5 EN60688 from 0% to 120% of the input value - selectable output by front dip switch 0...5/10/20mA - 4...20mA - 0...5/10V - 2...10V

Tema I4 NT554

Current measurement of the average value, calibration placed in ratio with the TRMS
Response time ≤300ms

Code	Current	Aux	No. of Outputs
TM3I330	5A	230 Vac	1
TM3IH30	5A	20...150 Vdc + 48 Vac	1
TM3I310	1A	230 Vac	1
TM3IH0	1A	20...150 Vdc + 48 Vac	1

Tema I4e NT628

Current measurement of the TRMS even in systems subject to considerable harmonic disturbances
Response time ≤100ms

Code	Current	Aux	No. of Outputs
TM4I330	5A	230 Vac	1
TM4IH30	5A	20...150 Vdc + 48 Vac	1
TM4I310	1A	230 Vac	1
TM4IH10	1A	20...150 Vdc + 48 Vac	1

Tema U4 NT555

Voltage measurement of the average value, calibration placed in ratio to the TRMS
Response time ≤300ms

Code	Voltage	Aux	No. of Outputs
TM3U320	110 V	230 Vac	1
TM3UH20	110 V	20...150 Vdc + 48 Vac	1
TM3U390	400 V	230 Vac	1
TM3UH90	400 V	20...150 Vdc + 48 Vac	1

Tema U4e NT629

Voltage measurement of the TRMS even in systems subject to considerable harmonic disturbances
Response time ≤100ms

Code	Voltage	Aux	No. of Outputs
TM4U320	110 V	230 Vac	1
TM4UH20	110 V	20...150 Vdc + 48 Vac	1
TM4U390	400 V	230 Vac	1
TM4UH90	400 V	20...150 Vdc + 48 Vac	1

Multimeasure transducers

Transducers that can be entirely configured on site, main electrical measurements taken with accuracy in class 0.5 EN60688 - response time ≤300ms

Tema fP NT514

Connection on LV/MV single phase and three phase line
True RMS of: kW, kvar, kVA, Hz, cosφ, h, phase angle
Programmable analogue output ±5/10/20mA - 4...20mA - ±10V - 1...5 V

Code	Current	Voltage	Aux	No. of Outputs
TM8P03120	5A	500 V	230-240 Vac	1
TM8P0H120	5A	500 V	230-240 Vac	1

Tema Pr4 NT848

Connection on LV/MV single phase and three phase line
True RMS of: A, V, kW, kvar, kVA, Hz, cosφ, h
4 programmable analogue outputs 0...20mA - 4...20mA

Code	Current	Voltage	Aux	No. of Outputs
TM960451	5A	80...690 V (F-F) 50...400 V (F-N)	80...265 Vac + 110...300 Vdc	4
TM960452	5A	80...690 V (F-F) 50...400 V (F-N)	11...60 Vdc	4

Code	Description
ATM96002	Tema Pr4 programming kit
IF96005	Alarm module 2 relay outputs assignable to the measurements made by Tema Pr4

CT with built-in transducer

Current transformer with built-in transducer for measuring of alternating current (TT35 - TT35A) and direct current (HT35Bm) with accuracy in class 1 EN60688 - hole for passing cable 35mm in diam.

TT35 NT433

2 wire technology for A.C. lines - Response time ≤500ms

Code	Current	Aux	Output
TT1AA502A	5/10/15/20/25/30/35/40/45A	10...34 Vdc	4...20mA
TT1AB152A	15/30/45/60/75/90/105/120/135A	10...34 Vdc	4...20mA
TT1AB252A	25/50/75/100/125/150/175/200/225A	10...34 Vdc	4...20mA
TT1AB502A	50/100/150/200/250/300/350/400/450A	10...34 Vdc	4...20mA

TT35A NT434

4 wire technology for A.C. lines - Response time ≤500ms

Code	Current	Aux	Output
TT1BA5023	5/10/15/20/25/30/35/40/45A	230 Vac	4...20mA
TT1BA2523	25/50/75/100/125/150/175/200/225A	230 Vac	4...20mA
TT1BA2533	25/50/75/100/125/150/175/200/225A	230 Vac	0...10V

HT35Bm NT763

4 wire technology for D.C. lines - Response time ≤300ms

Code	Current	Aux	Output
HT1BM1027	10/20/30/40/50/60/70/80/90/100A	80...265 Vac + 110...300 Vdc	4...20mA
HT1BM102C	10/20/30/40/50/60/70/80/90/100A	20...60 Vdc + 24 Vac	4...20mA

IF4E011

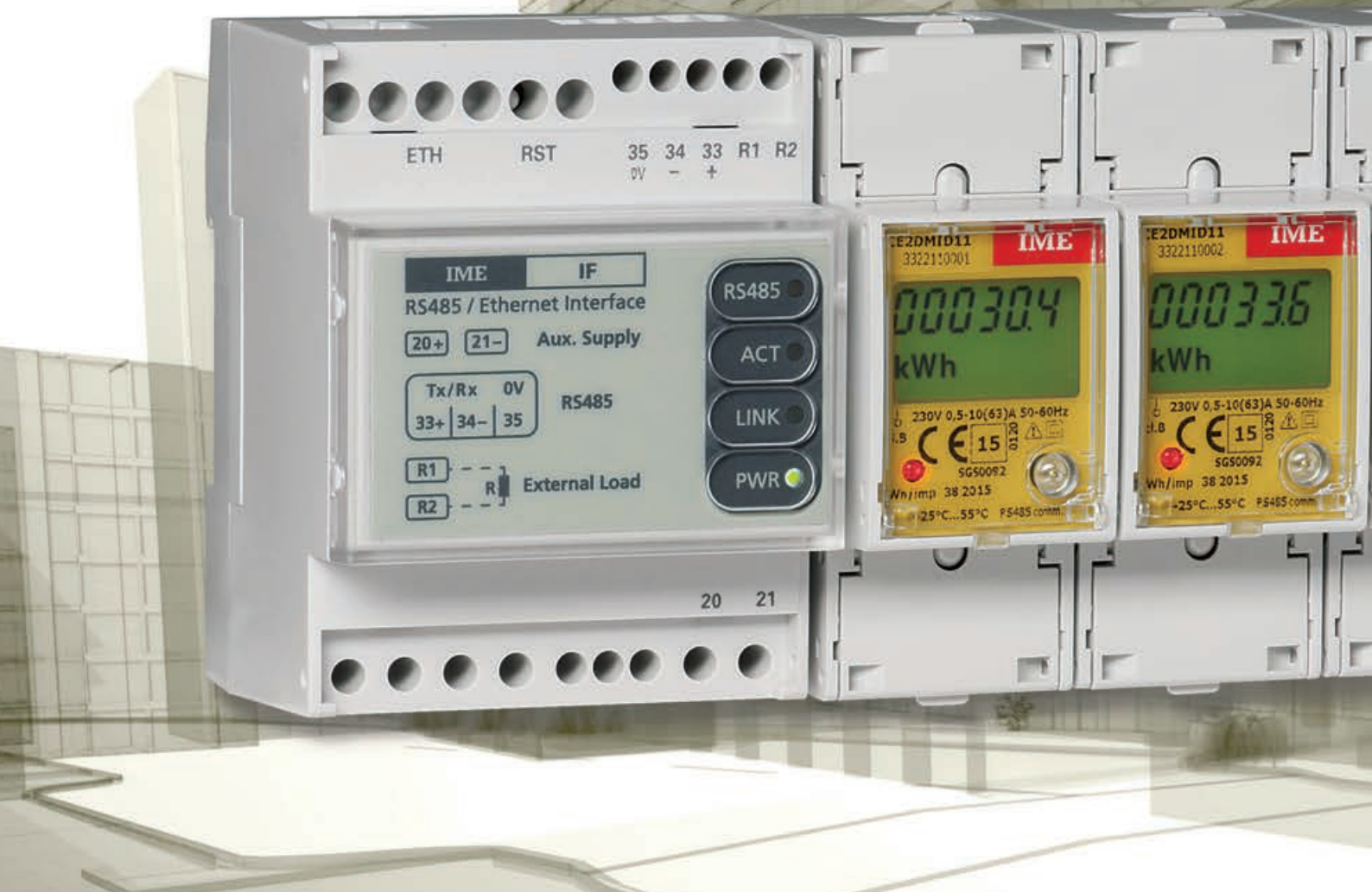
RS485/Ethernet stand - alone interface with built-in datalogger

IF4E011

- The new IF4E011 interface is able to store energy consumptions from up to **64 instruments** in the Nemo and Conto series. A powerful new stand-alone instrument that stores the data in loco and makes it available on the network. It can be displayed directly from its web-based console without needing to install any software or dedicated PC.

User friendliness

- No dedicated PC or software is necessary
- All you need is a browser like Internet Explorer, Chrome, Mozilla, Firefox or Safari to access the IF4E011 interface, configure it and display the data it contains.
- Multisession, up to 4 users connected at the same time
- Internal memory up to 400 days that can be downloaded in csv files



2 password levels

ADMINISTRATOR

- Creation, editing and cancellation of users
- Daily/monthly/yearly consumption reports by individual users or groups of users
- Consumption reports via email that can be automatically configured

USER (up to 64)

- Daily/monthly/yearly consumption report display

IME

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