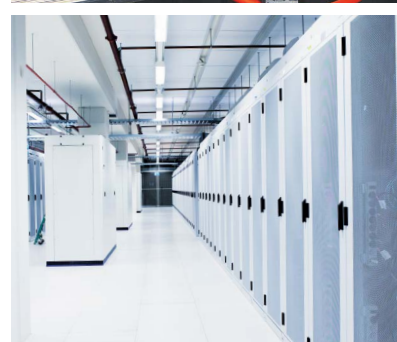
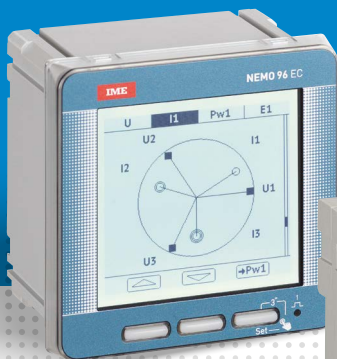


# EASYCONNECT

THE NEW QUICK  
CONNECTION  
MULTIFUNCTION  
UNITS



# New EASYCONNECT multifunction units

The range of NEMO multifunction instruments is completed with the new **EASYCONNECT** solutions, available in 4 DIN modules or for 96x96 mm panel installation.

The new measurement units are fitted with ROGOWSKI measurement coils (closed and openable), which offer a fast and safe fault-proof connection.



DIN version with 63A and 125A closed Rogowski coils

## DIN and door version

The measurement units are available in 2 versions:

### BASIC:

Backlit display, built-in RS485 Modbus or Mbus communication, Class 1 (EN61557-12).

### STANDARD:

Backlit graphic display, integrated RS485 Modbus or MBUS communication, 1 or 2 current sensor triad inputs, Class 1 (EN61557-12).

## Measurements:

- Active and reactive energies, positive for each phase
- Total apparent energy
- Active and reactive energies, positive for tariff
- Voltage, current, frequency
- Active and reactive power, positive and negative
- Active and reactive energies (Positive and negative)
- Total and partial energy for tariff (Can be reset)
- Power factor
- Power curve
- Peak value of powers and currents for phases
- Harmonic analysis for voltages and currents up to the 15 (pursuant to EN61557-12).
- Voltage offset when compared with currents
- Hour meter

## Closed coil dimensions

CODE	INPUT (A)	MINIMUM CURRENT (A)	MAX CURRENT (A)	CABLE LENGTH (m)	MIN HOLE DIAMETER (mm)	MAX HOLE DIAMETER (mm)
MK...63..	63	0.5	63	0.35	4.8	9.3
MK...125..	125	1	125	0.35	6.4	15.3



96x96 mm version with 63 A and 125 A closed Rogowski coils

# INSTALLATION

## flexibility

### Units with closed coils

To ensure maximum flexibility and quick installation, the available control units are equipped with Rogowski closed coils, which can easily be connected by means of a connector suitable for currents up to 125 A.



### Units with open coils

For current from 630 to 6300A, there are control units with open type Rogowski coils that can easily be installed on copper or aluminium bars or cable bundles. This solution guarantees flexibility of installation in both new and existing systems.

### GUIDE TO CHOOSING OPENABLE ROGOWSKI COILS

CODE	DIAMETER (mm)	MINIMUM CURRENT (A)	MAX CURRENT (A)
<b>ROG630M2</b>	50	12.5	750
<b>ROG1600M2</b>	100	32.5	1950
<b>ROG3200M2</b>	150	65	3900
<b>ROG6300M2</b>	240	125	7500



Open Rogowski Coils



# Quick and easy **WIRING**



### **Quick connections**

The connection of the current sensors to the flush-mounted and DIN module measurement units is guaranteed by a practical quick connector. This also avoids having to configure the transformation ratio, as the solution is available in a pre-configured kit.

### **Open coils**

Installing open coils on busbars or cable bundles is extremely quick and easy.

A special spacer supplied with the coils allows the conductor being measured to be mounted in the centre of the sensor, therefore ensuring maximum precision at all times.



### **Connection flexibility**

If the coils need to be connected at a distance greater than the standard cable length, extensions are also available, already fitted with quick connectors, that allow to reach a distance of 5 m.



# CONNECTION

## safety

### Fault-proof connections

The connection between current sensors and measurement units is ensured by a pre-wired connector, which in addition to allowing quick connections, also avoids connection errors.

The system is extremely practical and functional, reducing installation times.



### Safety and reliability

The **EASYCONNECT** connection system avoids the common connection error that affects the measurement. The pre-wired connector can only be connected in one direction, therefore ensuring high reliability. In case of connection in the wrong direction with respect to the load, the automatic measurement diagnostic built in the device allows to change the calculation logics without disconnecting the system.

As the sensor output is low voltage, it is not necessary to short the secondary before disconnecting the current sensor from the instrument.



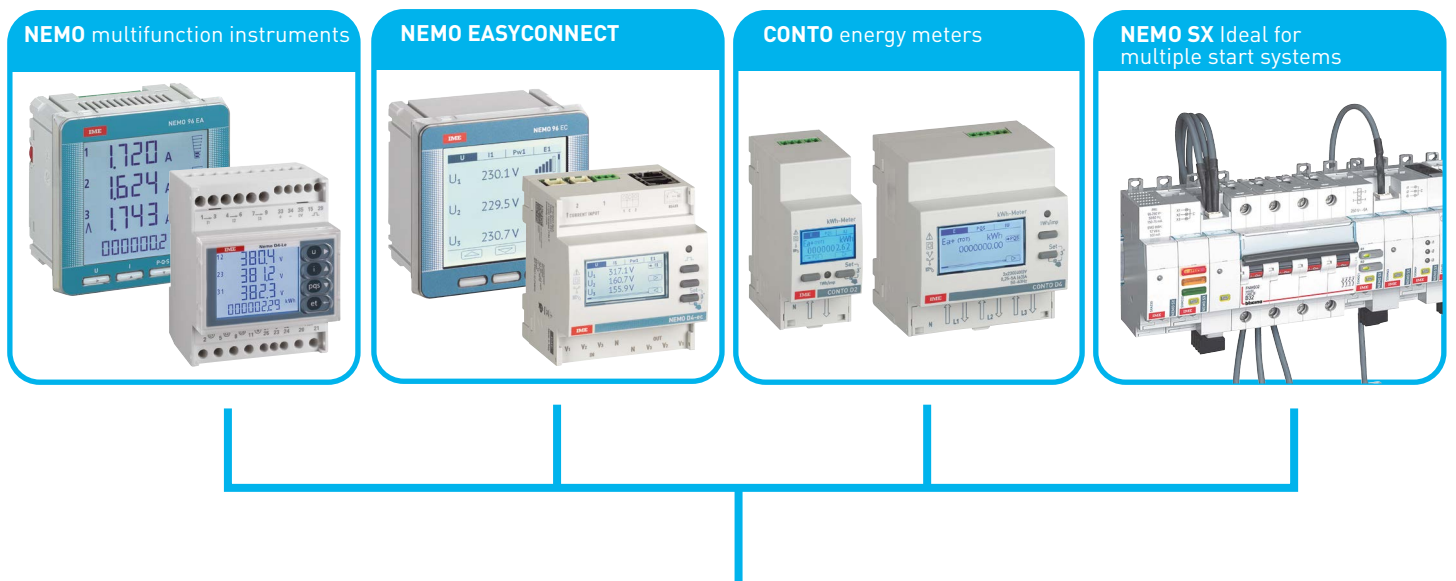
# WEBSERVER

## For consumption control and management

The combination of the **Webservers** with the **NEMO** multifunction units, the **CONTO** meters and the **NEMO SX** system makes it possible to:

- analyse data and improve processes.
- determine the annual energy demand and define a distribution of consumptions,
- analyse long-term evolutions, to monitor performance,
- manage multi-site electrical installations remotely and/or locally, using smartphones, tablets, PCs, etc.

The **EASYCONNECT** measurement units are used to measure, record and transmit values such as active and reactive energy, power, voltages and currents, and are available with 2 communication protocols: MODBUS for data transmission to the Webserver with chart display, or for integration with third-party display software, and Mbus.



**WEBSERVER**



It allows remote configuration, testing, control and display, via a browser on different devices - PCs, smartphones, Web viewers -, of data collected by IME devices: Conto meters, NEMO multifunction unit, NEMO SX measurement system.

Pop-up alarms available with the Telegram App for Smartphones (configuration via the Web Server and only with NEMO SX).



**Web server (DIN version)** for 10 (item code SXWS10) or 32 Modbus addresses or pulse modules (item code SXWS32).



**Web server** for 255 Modbus addresses or 255 pulse modules (item code SXWS255).

### Web server features:

- data display on smartphone or tablet PC
- billing functions
- multi-tariff function
- multilevel Webserver
- possibility of several currencies

## Display and control devices



Smartphone



Tablet



Personal Computer



# Multifunction instruments

## Selection table

		No com DIN rail		Basic DIN rail			Standard DIN rail		
		BT		BT			BT		
Inputs	Model								
	Line								
	No. of current inputs	1 (closed)		1 (closed)		1 (openable)	1 (openable)	2 (openable)	
	Current capacity (A)	63	125	63	125	750-1950- 3900-7500	750-1950-3900-7500	750-1950-3900-7500	
	Network connection	Three-phase with neutral	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		Three-phase without neutral	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Rated values	Voltage (Vac)	230 (L-N) 400 (L-L)	230 (L-N) 400 (L-L)	230 (L-N) 400 (L-L)	230 (L-N) 400 (L-L)	230 (L-N) 400 (L-L)	230 (L-N) 400 (L-L)	230 (L-N) 400 (L-L)
		Reference current (A)	10	20	10	20	250-650- 1300-2500	250-650-1300-2500	250-650-1300-2500
Minimum current (A)		0.5	1	0.5	1	12.5-32.5- 65-125	12.5-32.5-65-125	12.5-32.5-65-125	
Current input	Dedicated CT	Yes (LPCT)	Yes (LPCT)	Yes (LPCT)	Yes (LPCT)	Yes (Openable Rogowski)	Yes (Openable Rogowski)	Yes (Openable Rogowski)	
	Insulated	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Display	Active energy	Precision EN/IEC 62053-21	Cl.1	Cl.1	Cl.1	Cl.1	CL1	CL1	CL1
		Positive and total	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		For tariff	No	No	Yes	Yes	Yes	Yes	Yes
		Negative and total	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Reactive energy	Precision EN/IEC 62053-23	Cl.2	Cl.2	Yes	Yes	Yes	Yes	Yes
		Positive and total	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		For tariff	No	No	Yes	Yes	Yes	Yes	Yes
		Negative and total	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Voltage	Precision EN/IEC 61557-12	Cl.0.5	Cl.0.5	Cl.0.5	Cl.0.5	Cl.0.5	Cl.0.5	Cl.0.5
		Phase (min, max, instantaneous)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		Interlinked (instantaneous)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		Neutral	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Current	Precision EN/IEC 61557-12	Cl.1	Cl.1	Cl.1	Cl.1	Cl1	Cl1	Cl1
		Phase	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		Average-maximum average phase	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Power factor	Precision EN/IEC 61557-12	Cl.1	Cl.1	CL.1	Cl.1	Cl.1	Cl.1	Cl.1
		Three phases	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		Phase	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Power	Active (precision EN/IEC 61557-12)	Cl.1	Cl.1	Cl.1	Cl.1	Cl.1	Cl.1	Cl.1
		Reactive (precision EN/IEC 61557-12)	Cl.2	Cl.2	Cl.2	Cl.2	Cl.2	Cl.2	Cl.2
		Apparent	Cl.1	Cl.1	Cl.1	Cl.1	Cl.1	Cl.1	Cl.1
		Average and maximum average (for tariff)	No	No	Yes	Yes	Yes	Yes	Yes
		Phase active and reactive	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		For tariff	No	No	No	No	No	No	No
	Harmonic distortion	Thd current / voltage	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		Analysis	No	No	No	No	No	Yes (15°)	Yes (15°)
	Frequency		+/-0.01 Hz	+/-0.01 Hz	+/-0.01 Hz	+/-0.01 Hz	+/-0.01 Hz	+/-0.01 Hz	+/-0.01 Hz
	Hour meter		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Diagnostic, phase sequence correction		Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Inputs	Double tariff	No	No	Yes	Yes	Yes	No	No	
	Multi-tariff (4)	No	No	No	No	No	Yes	Yes	
Communication	M-bus	No	No	Yes	Yes	Yes	Yes	Yes	
	Rs485 modbus RTU	No	No	Yes	Yes	Yes	Yes	Yes	





			Basic Flush mounting 96x96mm BT			Standard Flush mounting 96x96mm BT		
Inputs	Model							
	Line							
	No. of current inputs		1 (closed)		1 (openable)	1 (openable)	2 (openable)	
	Current capacity (A)		63	125	750-1950-3900-7500	630-1600-3200-6300	750-1950-3900-7500	
	Network connection	Three-phase with neutral		Yes	Yes	Yes	Yes	Yes
		Three-phase without neutral		No	No	No	Yes	Yes
	Rated values	Voltage (Vac)		230 (L-N) 400 (L-L)	230 (L-N) 400 (L-L)	230 (L-N) 400 (L-L)	230 (L-N) 400 (L-L)	230 (L-N) 400 (L-L)
		Reference current (A)		10	20	250-650-1300-2500	250-650-1300-2500	250-650-1300-2500
		Minimum current (A)		0.5	1	12.5-32.5-65-125	12.5-32.5-65-125	12.5-32.5-65-125
	Current input	Dedicated CT		Yes (LPCT)	Yes (LPCT)	Yes (Openable Rogowski)	Yes (Openable Rogowski)	Yes (Openable Rogowski)
Insulated			Yes	Yes	Yes	Yes	Yes	
Display	Active energy	Precision EN/IEC 62053-21	Cl.1	Cl.1	CL1	CL1	CL1	
		Positive and total	Yes	Yes	Yes	Yes	Yes	
		For tariff	Yes	Yes	Yes	Yes	Yes	
		Negative and total	Yes	Yes	Yes	Yes	Yes	
	Reactive energy	Precision EN/IEC 62053-23	Yes	Yes	Yes	Yes	Yes	
		Positive and total	Yes	Yes	Yes	Yes	Yes	
		For tariff	Yes	Yes	Yes	Yes	Yes	
		Negative and total	Yes	Yes	Yes	Yes	Yes	
	Voltage	Precision EN/IEC 61557-12	Cl.0.5	Cl.0.5	Cl.0.5	Cl.0.5	Cl.0.5	
		Phase (min, max, instantaneous)	Yes	Yes	Yes	Yes	Yes	
		Interlinked (instantaneous)	Yes	Yes	Yes	Yes	Yes	
		Phase	Yes	Yes	Yes	Yes	Yes	
	Current	Precision EN/IEC 61557-12	Cl.1	Cl.1	Cl1	Cl1	Cl1	
		Phase	Yes	Yes	Yes	Yes	Yes	
		Neutral	Yes	Yes	Yes	Yes	Yes	
	Power factor	Average-maximum average phase	Yes	Yes	Yes	Yes	Yes	
		Precision EN/IEC 61557-12	Cl.1	Cl.1	Cl.1	Cl.1	Cl.1	
		Three phases	Yes	Yes	Yes	Yes	Yes	
	Power	Phase	Yes	Yes	Yes	Yes	Yes	
		Active (precision EN/IEC 61557-12)	Cl.1	Cl.1	Cl.1	Cl.1	Cl.1	
		Reactive (precision EN/IEC 61557-12)	Cl.2	Cl.2	Cl.2	Cl.2	Cl.2	
		Apparent	Cl.1	Cl.1	Cl.1	Cl.1	Cl.1	
		Average and maximum average (for tariff)	Yes	Yes	Yes	Yes	Yes	
		Phase active and reactive	Yes	Yes	Yes	Yes	Yes	
	Harmonic distortion	For tariff	No	No	No			
		Thd current / voltage	Yes	Yes	Yes	Yes	Yes	
	Frequency	Analysis	No	No	No	Yes (15°)	Yes (15°)	
	Hour meter		+/-0.01 Hz	+/-0.01 Hz	+/-0.01 Hz	+/-0.01 Hz	+/-0.01 Hz	
	Diagnostic, phase sequence correction		Yes	Yes	Yes	Yes	Yes	
	Inputs	Double tariff		Yes	Yes	Yes	No	No
Multi-tariff (4)			No	No	No	Yes	Yes	
Communication	M-bus		Yes	Yes	Yes	Yes	Yes	
	Rs485 modbus RTU		Yes	Yes	Yes	Yes	Yes	

# Multifunction instruments

## Multifunction BASIC Easyconnect for low voltage AC three-phase networks



Multifunction bidirectional analyser for three or four wires three-phase systems. Thanks to the 63A and 125A mini current sensors being fitted with quick connectors, in addition to the display of the main values of an electrical network, the device also allows to reduce wiring times and the possibility of errors.

Measurements completed by the device

- Phase and Interlinked voltage
- Minimum and maximum voltage
- THD voltages
- Phase current
- Neutral current
- Average phase current
- Average phase current peak
- Average of the 3 currents
- THD currents
- Active, reactive, apparent three phase power
- Three phase distortion power
- Average active, reactive, apparent power
- Average active, reactive, apparent power peak
- Active energy, positive and negative
- Reactive energy, positive and negative
- Power factor
- Frequency
- Voltage or power presence start hour meter
- Positive active energy tariff hour meters

Code	EASYCONNECT BASIC				
	Input (A)	No. of inputs A	Input (V)	Auxiliary power supply	Communication output
<b>MKD4R63FC001</b>	3x63A	1	400V (L-L)	230Vca	-
<b>MKD4R125FC001</b>	3x125A	1	400V (L-L)	230Vca	-
<b>MKD4R63DT</b>	3x63A	1	400V (L-L)	230Vca	Modbus
<b>MKD4R63MT</b>	3x63A	1	400V (L-L)	230Vca	M-bus
<b>MKD4R125DT</b>	3x125A	1	400V (L-L)	230Vca	Modbus
<b>MKD4R125MT</b>	3x125A	1	400V (L-L)	230Vca	M-bus

### FEATURES OF THE ROGOWSKI MINI-COILS SUPPLIED

Input (A)	Minimum current (A)	Maximum current (A)	Cable length (m)	Min hole diameter (mm)	Max hole diameter (mm)
<b>MK...63..</b>	0.5	63	0.35	4.8	9.3
<b>MK...125..</b>	1	125	0.35	6.4	15.3

Extension cable codes

- ROGEXTM1** Length 1 metre
- ROGEXTM3** Length 3 metres

### Technical features

INPUT	
Type of connection	3-3E / 3N3E
Rated voltage	400 V (L-L)
Voltage range	340...460 V
Rated current	10 A                      20 A
Maximum current	63 A                         125 A
Minimum current	0.5 A                        1 A
Rated frequency	50/60 Hz
Frequency variation	45...65 Hz
AUXILIARY POWER SUPPLY	
Rated value	230 Vca
Voltage variation	195...264 V
Frequency	50/60 Hz
Self consumption	<2,5 VA
ACCURACY	

Precision according to EN/IEC 61557-12; EN/IEC 62053-21; EN/IEC 62053-23	- Voltage: cl. 0.5 - Current: cl. 1 - Active energy: cl. 1 - Reactive energy cl. 2 - Active power cl. 1 - Reactive power cl. 2 - Apparent power cl. 1 - Frequency ± 0.1 Hz - THD cl. 1
--	--

DISPLAY	
Type of display	Backlit LCD
Digit height	7mm (5mm energy meter)

MECHANICAL CHARACTERISTICS	
Housing	4 DIN modules 43880 (35mm)
Material	self-extinguishing polycarbonate
Protection index	IP20 terminals/ IP54 front

TYPE OF CONNECTION	
Voltages	Screw
Tariffs	Screw
Modbus	Screw
Mbus	Screw
Currents	Easy connect

ENVIRONMENTAL CONDITIONS	
Temperature of use	-20...60 °C
Storage temperature	-25...70 °C
Suitable for use in tropical climates	yes
Maximum power consumption	≤5 W

### Outputs

COMMUNICATION RS485	
Protocol	MODBUS RTU/TCP
Standard	RS485-3 wires
Impedance	120 Ohm (connection programmable from menu)
Transmission speed	Can be selected 4800...38400 bit/s

COMMUNICATION M-BUS	
Protocol	M-BUS
Standard	EN13757
Transmission speed	Can be selected 300...9600 bit/s

### Inputs (only for codes with communication)

Type	Potential-free contact
Contact output	12-24 Vdc-10 mA
Management	T1-T2 double tariff

# Multifunction instruments

## Multifunction BASIC Easyconnect for low voltage AC three-phase networks



Multifunction bidirectional analyser for three or four wires three-phase systems.

Thanks to the 630A to 6300A openable current sensors being fitted with quick connectors, in addition to the display of the main values of an electrical network, the device also allows to reduce wiring times and the possibility of errors.

Measurements completed by the device

- Phase and Interlinked voltage
- Minimum and maximum voltage
- THD voltages
- Phase current
- Neutral current
- Average phase current
- Average phase current peak
- Average of the 3 currents
- THD currents
- Active, reactive, apparent three phase power
- Three phase distortion power
- Average active, reactive, apparent power
- Average active, reactive, apparent power peak
- Active energy, positive and negative
- Reactive energy, positive and negative
- Power factor
- Frequency
- Voltage or power presence start hour meter
- Positive active energy tariff hour meters

Code	BASIC UNIVERSAL EASYCONNECT				
	Input (A)	No. of inputs A	Input (V)	Auxiliary power supply	Communication output
<b>MFD4ORFCDT1</b>	3x630/1600/3200/6300A *	1	400V (L-L)	230Vca	Modbus
<b>MFD4ORFCMT1</b>	3x630/1600/3200/6300A *	1	400V (L-L)	230Vca	M-bus

\* openable Rogowski coils to be ordered separately



Code	ROGOWSKI OPENABLE COILS				
	Input (A)	Minimum current (A)	Maximum current (A)	Cable length (m)	Diameter (mm)
<b>ROG630M2</b>	630	12.5	750	2	50
<b>ROG1600M2</b>	1600	32.5	1950	2	100
<b>ROG3200M2</b>	3200	65	3900	2	150
<b>ROG6300M2</b>	6300	125	7500	2	240

Extension cable codes

- ROGEXTM1** Length 1 metre
- ROGEXTM3** Length 3 metres

### Technical features

INPUT	
Type of connection	3-3E / 3N3E
Rated voltage	400V (L-L)
Voltage range	340...460 V
Rated current	630/1600/3200/6300 A*
Maximum current	750/1950/3900/7500 A*
Minimum current	12.5/32.5/65/125 A*
Rated frequency	50/60 Hz
Frequency variation	45...65 Hz
AUXILIARY POWER SUPPLY	
Rated value	230 Vca
Voltage variation	195...264 V
Frequency	50/60 Hz
Self consumption	<2,5 VA
ACCURACY	

Precision according to EN/IEC 61557-12; EN/IEC 62053-21; EN/IEC 62053-23	- Voltage: cl.0.5 - Current: cl. 1 - Active energy: cl.1 - Reactive energy cl.1 - Active power cl.1 - Reactive power cl.1 - Apparent power cl.1 - Frequency ± 0.1 Hz - THD cl.2
--	---

DISPLAY	
Type of display	Backlit LCD
Digit height	7mm (5mm energy meter)

MECHANICAL CHARACTERISTICS	
Housing	4 DIN modules 43880 (35 mm)
Material	self-extinguishing polycarbonate
Protection index	IP20 terminals/ IP54 front

TYPE OF CONNECTION	
Voltages	Screw
Tariffs	Screw
Modbus	Screw
Mbus	Screw
Currents	Easy connect

ENVIRONMENTAL CONDITIONS	
Temperature of use	-20...60 °C
Storage temperature	-25...70 °C
Suitable for use in tropical climates	yes
Maximum power consumption	≤5 W

### Outputs

COMMUNICATION RS485	
Protocol	MODBUS RTU/TCP
Standard	RS485-3 wires
Impedance	120 Ohm (connection programmable from menu)
Transmission speed	Can be selected 4800...38400 bit/s
COMMUNICATION M-BUS	
Protocol	M-BUS
Standard	EN13757
Transmission speed	Can be selected 300...9600 bit/s

### Inputs

Type	Potential-free contact
Contact output	12-24 Vdc-10 mA
Management	T1-T2 double tariff



# Multifunction instruments

## Multifunction STANDARD Easyconnect for low voltage AC three-phase networks



Bidirectional multifunction device with 630A to 6300A openable current sensors suitable for 3 or 4 wires three-phase circuits. In addition to the display of the main values of an electric network, the graphic display can also be used to read the current and voltage offsets and to view the average power load curve.

The quick connectors of the sensors help to reduce the device wiring times and the possibility of errors.

Measurements completed by the device

- Phase and Interlinked voltage
- Minimum and maximum voltage
- THD voltages (up to 15)
- Phase current
- Neutral current
- Average phase current
- Average phase current peak
- Average of the 3 currents
- THD currents (up to 15)
- Active, reactive, apparent three phase power
- Three phase distortion power
- Average active, reactive, apparent power
- Average active, reactive, apparent power peak
- Active energy, positive and negative
- Reactive energy, positive and negative
- Active energy, positive for each phase
- Reactive energy, positive for each phase
- Total apparent energy
- Power factor
- Frequency
- Voltage or power presence start hour meter
- Positive active energy tariff hour meters
- Average power load curve
- Min. P<sub>f</sub>

Code	STANDARD UNIVERSAL EASYCONNECT				
	Input (A)	No. of inputs A	Input (V)	Auxiliary power supply	Communication output
<b>MFD41ORFCDT</b>	3x630/1600/3200/6300A *	1	400V (L-L)	self supplied	Modbus
<b>MFD41ORFCMT</b>	3x630/1600/3200/6300A *	1	400V (L-L)	self supplied	M-bus
<b>MFD42ORFCDT</b>	3x630/1600/3200/6300A *	2	400V (L-L)	self supplied	Modbus
<b>MFD42ORFCMT</b>	3x630/1600/3200/6300A *	2	400V (L-L)	self supplied	M-bus

\* openable Rogowski coils to be ordered separately



Code	ROGOWSKI OPENABLE COILS				
	Input (A)	Minimum current (A)	Maximum current (A)	Cable length (m)	Diameter (mm)
<b>ROG630M2</b>	630	12.5	750	2	50
<b>ROG1600M2</b>	1600	32.5	1950	2	100
<b>ROG3200M2</b>	3200	65	3900	2	150
<b>ROG6300M2</b>	6300	125	7500	2	240

Extension cable codes

<b>ROGEXTM1</b>	Length 1 metre
<b>ROGEXTM3</b>	Length 3 metres

### Technical features

INPUT	
Type of connection	3-3E / 3N3E
Rated voltage	230 and 400V (L-L)
Voltage range	195...460 V
Rated current	630/1600/3200/6300 A*
Maximum current	750/1950/3900/7500 A*
Minimum current	12.5/32.5/65/125 A*
Rated frequency	50/60 Hz
Frequency variation	45...65 Hz
AUXILIARY POWER SUPPLY	
Rated value	self supplied (among all the measurement steps)
Voltage variation	-
Frequency	-
Self consumption	-
FREQUENCY VARIATION	
Precision according to EN/IEC 61557-12; EN/IEC 62053-21; EN/IEC 62053-23	- Voltage: cl.0,5 - Current: cl. 1 - Active energy: cl.1 - Reactive energy cl.1 - Active power cl.1 - Reactive power cl.1 - Apparent power cl.1 - Frequency ± 0.1 Hz - THD cl.2
DISPLAY	
Type of display	Backlit graphic LCD
Digit height	Display sizes: 2"
MECHANICAL CHARACTERISTICS	
Housing	4 DIN modules 43880 (35 mm)
Material	self-extinguishing polycarbonate
Protection index	IP20 terminals/ IP54 front
TYPE OF CONNECTION	
Voltages IN V1-V2-V3-N	Screw
Voltages OUT N-V3-V2-V1	Screw
Tariffs	Screw
Modbus	RJ45
Mbus	Screw
Currents	Easy connect
ENVIRONMENTAL CONDITIONS	
Temperature of use	-20...60 °C
Storage temperature	-25...70 °C
Suitable for use in tropical climates	yes
Maximum power consumption	≤5 W

### Outputs

COMMUNICATION RS485	
Protocol	MODBUS RTU/TCP
Standard	RS485-3 wires
Impedance	120 Ohm (connection programmable from menu)
Transmission speed	Can be selected 4800...38400 bit/s
COMMUNICATION M-BUS	
Protocol	M-BUS
Standard	EN13757
Transmission speed	Can be selected 300...9600 bit/s

### Inputs

Type	Potential-free contact
Contact output	12-24 Vdc-10 mA
Management	T1-T2-T3-T4 double tariff

# Multifunction instruments

## Flush-mounted multifunction BASIC Easyconnect for three-phase AC low voltage networks



Multifunction bidirectional analyser for three and four wires systems. Thanks to the 63A and 125A mini current sensors being fitted with quick connectors, in addition to the display of the main values of an electrical network, the device also allows to reduce wiring times and the possibility of errors.

Measurements completed by the device

- Phase and Interlinked voltage
- Minimum and maximum voltage
- THD voltages
- Phase current
- Neutral current
- Average phase current
- Average phase current peak
- Average of the 3 currents
- THD currents
- Active, reactive, apparent three phase power
- Three phase distortion power
- Average active, reactive, apparent power
- Average active, reactive, apparent power peak
- Active energy, positive and negative
- Reactive energy, positive and negative
- Power factor
- Frequency
- Voltage or power presence start hour meter
- Positive active energy tariff hour meters

Code	EASYCONNECT BASIC				
	Input (A)	No. of inputs A	Input (V)	Auxiliary power supply	Communication output
<b>MK96R63DT</b>	3x63A	1	400V (L-L)	self supplied	Modbus
<b>MK96R63MT</b>	3x63A	1	400V (L-L)	self supplied	M-bus
<b>MK96R125DT</b>	3x125A	1	400V (L-L)	self supplied	Modbus
<b>MK96R125MT</b>	3x125A	1	400V (L-L)	self supplied	M-bus

	FEATURES OF THE ROGOWSKI MINI-COILS SUPPLIED					
	Input (A)	Minimum current (A)	Maximum current (A)	Cable length (m)	Min hole diameter (mm)	Max hole diameter (mm)
<b>MK...63..</b>	63	0.5	63	0.35	4.8	9.3
<b>MK...125..</b>	125	1	125	0.35	6.4	15.3

Extension cable codes

<b>ROGEXTM1</b>	Length 1 metre
<b>ROGEXTM3</b>	Length 3 metres

### Technical features

INPUT		
Type of connection	3N3E	
Rated voltage	400V (L-L)	
Voltage range	340...460 V	
Rated current	10A	20A
Maximum current	63A	125A
Minimum current	0.5A	1A
Rated frequency	50/60Hz	
Frequency variation	45...65Hz	
AUXILIARY POWER SUPPLY		
Rated value	self supplied (L1-N)	
Voltage variation	-	
Frequency	-	
Self consumption	-	
ACCURACY		

Precision according to EN/IEC 61557-12; EN/IEC 62053-21; EN/IEC 62053-23	- Voltage: cl. 0.5 - Current: cl. 1 - Active energy: cl. 1 - Reactive energy: cl. 2 - Active power: cl. 1 - Reactive power: cl. 2 - Apparent power: cl. 1 - Frequency ± 0.1 Hz - THD cl. 1
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DISPLAY	
Type of display	Backlit LCD
Digit height	7mm (5mm energy meter)

MECHANICAL CHARACTERISTICS	
Housing	flush mounting (flush mounting drilling 92x92 mm)
Front frame	96x96 mm
Material	self-extinguishing polycarbonate
Protection index	IP20 terminals/ IP54 front

TYPE OF CONNECTION	
Voltages	Screw
Tariffs	Screw
Modbus	Screw
Mbus	Screw
Currents	Easy connect

ENVIRONMENTAL CONDITIONS	
Temperature of use	-20...60 °C
Storage temperature	-25...70 °C
Suitable for use in tropical climates	yes
Maximum power consumption	≤5 W

### Outputs

COMMUNICATION RS485	
Protocol	MODBUS RTU/TCP
Standard	RS485-3 wires
Impedance	120 Ohm (connection programmable from menu)
Transmission speed	Can be selected 4800...38400 bit/s
COMMUNICATION M-BUS	
Protocol	M-BUS
Standard	EN13757
Transmission speed	Can be selected 300...9600 bit/s

### Inputs

Type	Potential-free contact
Contact output	12-24 Vdc-10 mA
Management	T1-T2 double tariff

# Multifunction instruments

## Flush-mounted multifunction BASIC Easyconnect for three-phase AC low voltage networks



Multifunction bidirectional analyser for three and four wires systems. Thanks to the 630A to 6300A openable current sensors being fitted with quick connectors, in addition to the display of the main values of an electrical network, the device also allows to reduce wiring times and the possibility of errors.

Measurements completed by the device

- Phase and Interlinked voltage
- Minimum and maximum voltage
- THD voltages
- Phase current
- Neutral current
- Average phase current
- Average phase current peak
- Average of the 3 currents
- THD currents
- Active, reactive, apparent three phase power
- Three phase distortion power
- Average active, reactive, apparent power
- Average active, reactive, apparent power peak
- Active energy, positive and negative
- Reactive energy, positive and negative
- Power factor
- Frequency
- Voltage or power presence start hour meter
- Positive active energy tariff hour meters

Code	BASIC UNIVERSAL EASYCONNECT				
	Input (A)	No. of inputs A	Input (V)	Auxiliary power supply	Communication output
<b>MF96ORFCDT1</b>	3x630/1600/3200/6300A *	1	400V (L-L)	self supplied	Modbus
<b>MF96ORFCMT1</b>	3x630/1600/3200/6300A *	1	400V (L-L)	self supplied	M-bus

\* openable Rogowski coils to be ordered separately



Code	ROGOWSKI OPENABLE COILS				
	Input (A)	Minimum current (A)	Maximum current (A)	Cable length (m)	Diameter (mm)
<b>ROG630M2</b>	630	12.5	750	2	50
<b>ROG1600M2</b>	1600	32.5	1950	2	100
<b>ROG3200M2</b>	3200	65	3900	2	150
<b>ROG6300M2</b>	6300	125	7500	2	240

Extension cable codes

- ROGEXTM1** Length 1 metre
- ROGEXTM3** Length 3 metres

### Technical features

INPUT	
Type of connection	3N3E
Rated voltage	400V (L-L)
Voltage range	340...460 V
Rated current	630/1600/3200/6300 A*
Maximum current	750/1950/3900/7500 A*
Minimum current	12.5/32.5/65/125 A*
Rated frequency	50/60 Hz
Frequency variation	45...65 Hz

AUXILIARY POWER SUPPLY	
Rated value	self supplied (L1-N)
Voltage variation	-
Frequency	-
Self consumption	-

ACCURACY	
Precision according to EN/IEC 61557-12; EN/IEC 62053-21; EN/IEC 62053-23	- Voltage: cl.0.5 - Current: cl. 1 - Active energy: cl.1 - Reactive energy cl.1 - Active power cl.1 - Reactive power cl.1 - Apparent power cl.1 - Frequency ± 0.1 Hz - THD cl.2

DISPLAY	
Type of display	Backlit LCD
Digit height	7mm (5mm energy meter)

MECHANICAL CHARACTERISTICS	
Housing	flush mounting (flush mounting drilling 92x92 mm)
Front frame	96x96 mm
Material	self-extinguishing polycarbonate
Protection index	IP20 terminals/ IP54 front

TYPE OF CONNECTION	
Voltages	Screw
Tariffs	Screw
Modbus	Screw
Mbus	Screw
Currents	Easy connect

ENVIRONMENTAL CONDITIONS	
Temperature of use	-20...60 °C
Storage temperature	-25...70 °C
Suitable for use in tropical climates	yes
Maximum power consumption	≤5 W

### Outputs

COMMUNICATION RS485	
Protocol	MODBUS RTU/TCP
Standard	RS485-3 wires
Impedance	120 Ohm (connection programmable from menu)
Transmission speed	Can be selected 4800...38400 bit/s

COMMUNICATION M-BUS	
Protocol	M-BUS
Standard	EN13757
Transmission speed	Can be selected 300...9600 bit/s

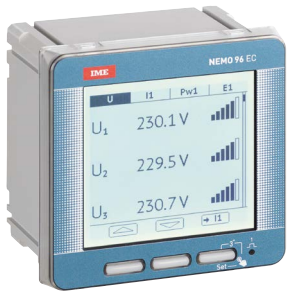
### Inputs

Type	Potential-free contact
Contact output	12-24 Vdc-10 mA
Management	T1-T2 double tariff



# Multifunction instruments

## Flush-mounted multifunction STANDARD Easyconnect for three-phase AC low voltage networks



Bidirectional multifunction device with 630A to 6300A openable current sensors suitable for 3 or 4 wires three-phase circuits. In addition to the display of the main values of an electrical network, the graphic display can also be used to read the current and voltage offsets and to view the average power load curve and the charts of the harmonics (up to 15)

The quick connectors of the sensors help to reduce the device wiring times and the possibility of errors.

Measurements completed by the device

- Phase and Interlinked voltage
- Minimum and maximum voltage
- THD voltages
- Voltage harmonic analysis
- Voltage peak factor
- Phase current
- Neutral current
- Average current
- Average current peak
- Average of the 3 currents
- THD currents
- Current harmonic analysis
- Current peak factor
- Active, reactive, apparent power
- Distortion power
- Average power
- Average power peak
- Active energy, positive and negative
- Reactive energy, positive and negative
- Power factor
- Frequency
- Voltage or power presence start hour meter

Code	STANDARD UNIVERSAL EASYCONNECT				
	Input (A)	No. of inputs A	Input (V)	Auxiliary power supply	Communication output
<b>MF961ORFCDT</b>	3x630/1600/3200/6300A *	1	400V (L-L)	self supplied	Modbus
<b>MF961ORFCMT</b>	3x630/1600/3200/6300A *	1	400V (L-L)	self supplied	M-bus
<b>MF962ORFCDT</b>	3x630/1600/3200/6300A *	1	400V (L-L)	self supplied	Modbus
<b>MF962ORFCMT</b>	3x630/1600/3200/6300A *	1	400V (L-L)	self supplied	M-bus

\* openable Rogowski coils to be ordered separately



### ROGOWSKI OPENABLE COILS

	Input (A)	Minimum current (A)	Maximum current (A)	Cable length (m)	Diameter (mm)
<b>ROG630M2</b>	630	12.5	750	2	50
<b>ROG1600M2</b>	1600	32.5	1950	2	100
<b>ROG3200M2</b>	3200	65	3900	2	150
<b>ROG6300M2</b>	6300	125	7500	2	240

Extension cable codes

- ROGEXTM1** Length 1 metre
- ROGEXTM3** Length 3 metres

### Technical features

INPUT	
Type of connection	3-3E / 3N3E
Rated voltage	230 and 400 V (L-L)
Voltage range	195...460 V
Rated current	630/1600/3200/6300 A*
Maximum current	750/1950/3900/7500 A*
Minimum current	12.5/32.5/65/125 A*
Rated frequency	50/60 Hz
Frequency variation	45...65 Hz

AUXILIARY POWER SUPPLY	
Rated value	self supplied (among all the measurement steps)
Voltage variation	-
Frequency	-
Self consumption	-

ACCURACY	
Precision according to EN/IEC 61557-12; EN/IEC 62053-21; EN/IEC 62053-23	<ul style="list-style-type: none"> <li>- Voltage: cl.0.5</li> <li>- Current: cl. 1</li> <li>- Active energy: cl.1</li> <li>- Reactive energy cl.1</li> <li>- Active power cl.1</li> <li>- Reactive power cl.1</li> <li>- Apparent power cl.1</li> <li>- Frequency ± 0.1 Hz</li> <li>- THD cl.2</li> </ul>

DISPLAY	
Type of display	Backlit LCD
Digit height	3,5" graphic display

MECHANICAL CHARACTERISTICS	
Housing	flush mounting (flush mounting drilling 92x92 mm)
Front frame	96x96 mm
Material	self-extinguishing polycarbonate
Protection index	IP20 terminals/ IP54 front

TYPE OF CONNECTION	
Voltages IN V1-V2-V3-N	Screw
Voltages OUT N-V3-V2-V1	Screw
Tariffs	Screw
Modbus	RJ45
Mbus	Screw
Currents	Easy connect

ENVIRONMENTAL CONDITIONS	
Temperature of use	-20...60 °C
Storage temperature	-25...70°C
Suitable for use in tropical climates	yes
Maximum power consumption	≤5 W

### Outputs

COMMUNICATION RS485	
Protocol	MODBUS RTU/TCP
Standard	RS485-3 wires
Impedance	120 Ohm (connection programmable from menu)
Transmission speed	Can be selected 4800...38400 bit/s

COMMUNICATION M-BUS	
Protocol	M-BUS
Standard	EN13757
Transmission speed	Can be selected 300...9600 bit/s

### Inputs

Inputs	
Type	Potential-free contact
Contact output	12-24 Vdc-10 mA
Management	T1-T2-T3-T4 double tariff



SXIIP



SXWS32



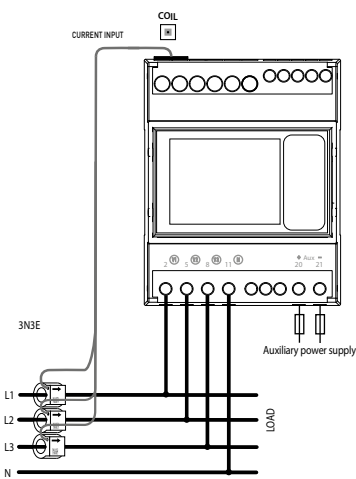
SXWS225

Code	<b>RS485/Modbus TCP-IP interface module</b>
	<p>Modbus/IP GATEWAY - Used for Modbus IP / Modbus RS485 conversion, it allows to connect the devices in the electric panel to an Ethernet network - Vn= 230 Vac - 3 modules</p> <p>Description</p> <p><b>SXIIP</b> RS485/Ethernet interface module for IP connection</p>
	<p><b>DIN rail mini Web server</b></p> <p>It is used to analyse and log consumptions on CSV files. It allows to view the values through web pages (Intranet/Internet) using devices such as: smartphone, tablet, PC, etc.</p> <p>Description</p> <p><b>SXWS10</b> It manages up to 10 Modbus addresses or 10 meters with pulse output. It must be powered using an external BTicino E49, F552, 346020 power supply</p> <p><b>SXWS32</b> It manages up to 32 Modbus addresses or 32 meters with pulse output. It must be powered using an external BTicino E49, F552, 346020 power supply</p>

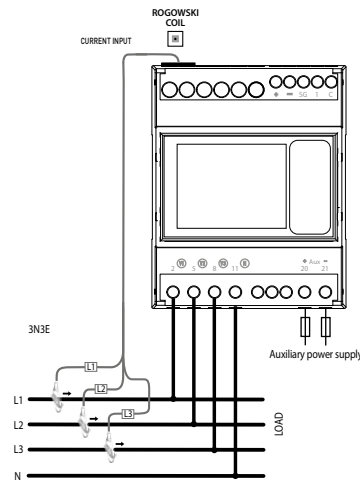
Code	<b>Web server</b>
	<p>It is used to analyse and log consumptions on CSV files. It allows to view the values through web pages (Intranet/Internet) using devices such as: smartphone, tablet, PC, etc.</p> <p>Description</p> <p><b>SXWS225</b> It manages up to 255 Modbus addresses. Direct powering. No dedicated power supply required.</p>

# CONNECTION DIAGRAMS

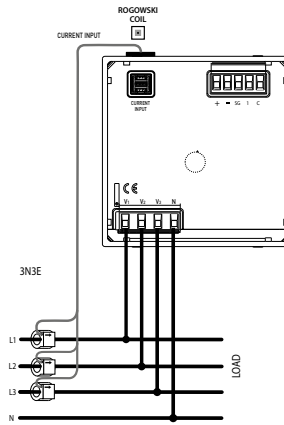
## Connections available with Basic devices



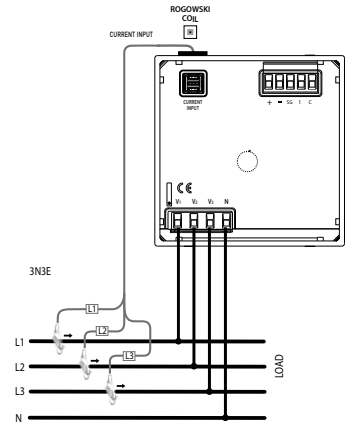
3N3E  
3-3E



3N3E  
3-3E

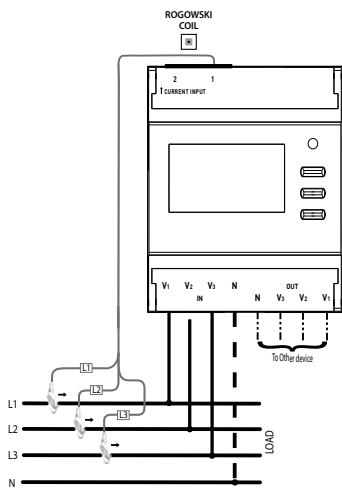


3N3E

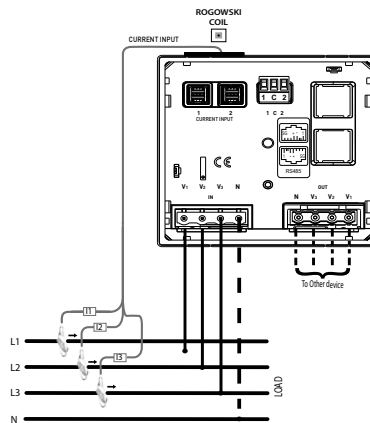


3N3E

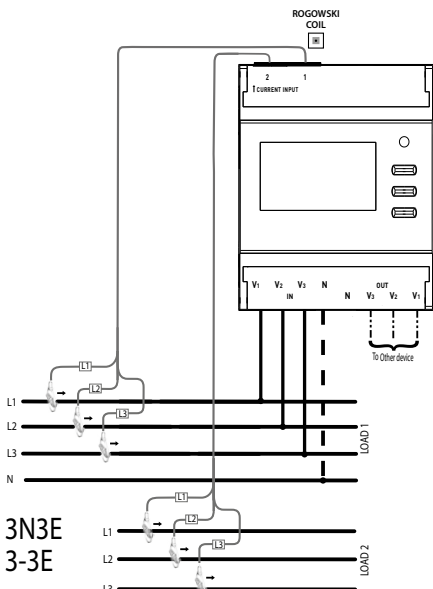
## Connections available with Standard devices



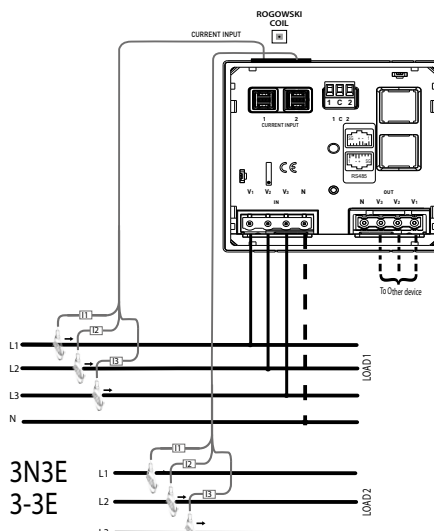
3N3E  
3-3E



3N3E  
3-3E



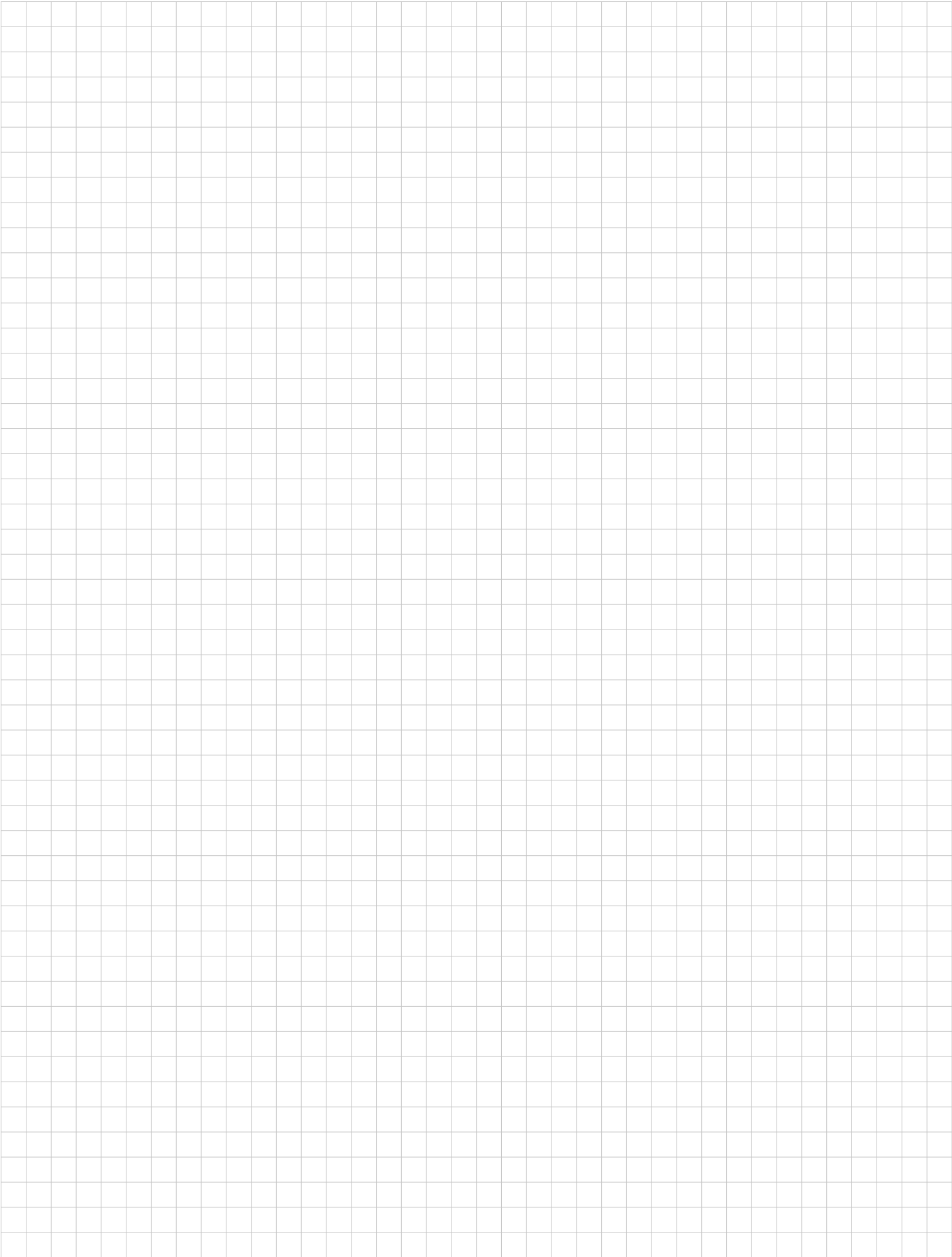
3N3E  
3-3E



3N3E  
3-3E



NOTES







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