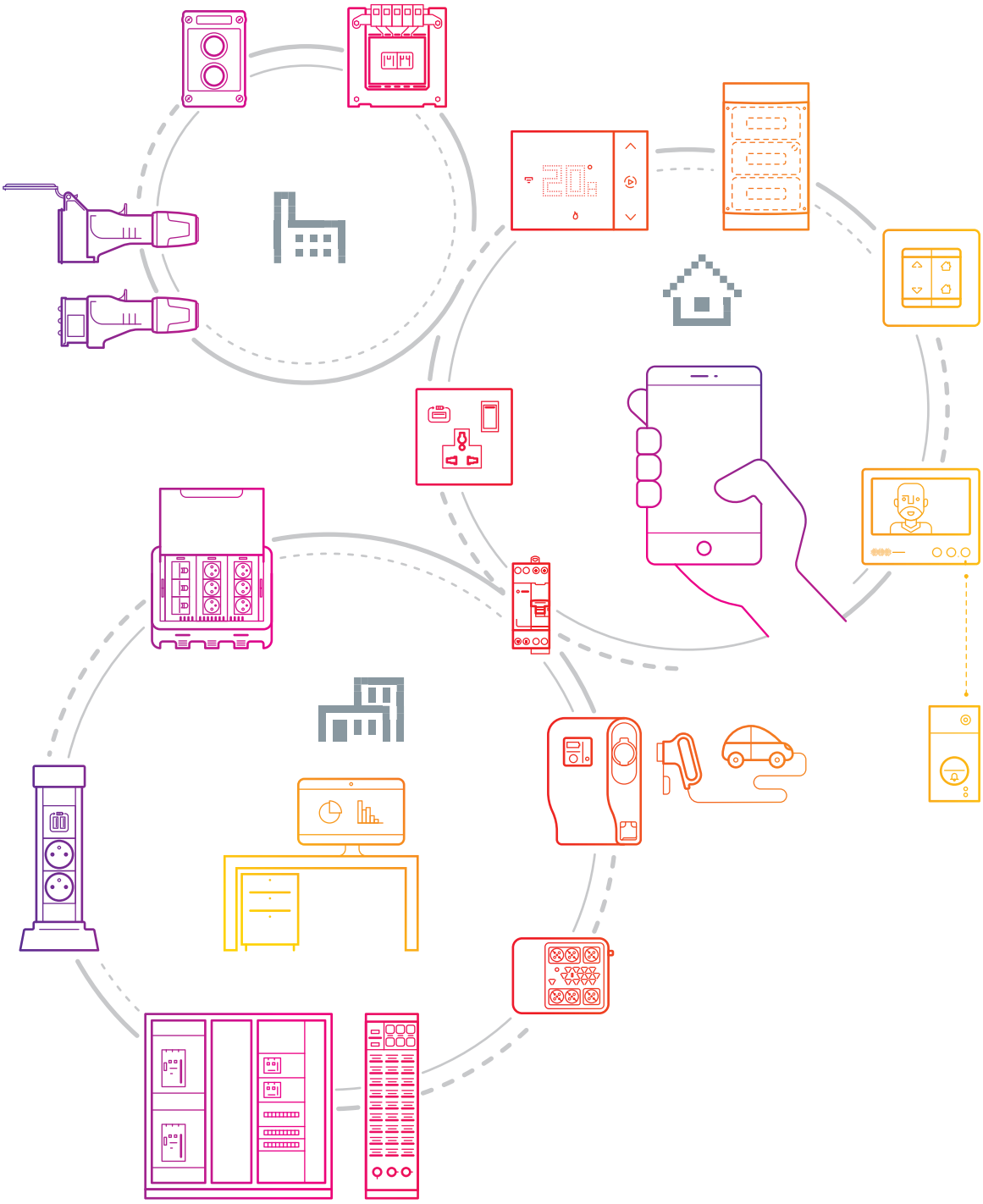
CATALOGUE

2018
2019



PRODUCTS AND SYSTEMS
FOR ELECTRICAL AND DIGITAL BUILDING INFRASTRUCTURES

legrand®

ACBs, MCCBs, HEAD EQUIPMENT & POWER FACTOR CORRECTION

Energy management & measurement

P. 100 CX³ energy management system

P. 102 EMDX³ electrical energy meters & multi-function measuring units ⌙ rail mounting

P. 103 EMDX³ multi-function measuring units on door

P. 110 Ammeters & voltmeters ⌙ rail mounting

P. 111 Ammeters & voltmeters on door

Power factor correction

P. 112 Alpimatic automatic capacitor banks

P. 116 Alpibloc fixed capacitor banks

P. 119 Alpivar³ capacitors

P. 120 Alpican capacitors

P. 123 Alptec power factor controllers

Head equipment

P. 127 DRX and DRX-I 125 thermal magnetic MCCBs ≤ 125 A

P. 129 DRX and DRX-I 250 thermal magnetic MCCBs ≤ 250 A

P. 131 N DRX 630 adjustable thermal magnetic MCCBs ≤ 630 A

P. 136 DPX³ 160 thermal magnetic MCCBs ≤ 160 A

P. 138 DPX³ 250 thermal magnetic MCCBs ≤ 250 A

P. 139 DPX³ 250 electronic release MCCBs ≤ 250 A

P. 142 Auxiliaries & accessories for DPX³ 160/250

P. 144 DPX³ 630 thermal magnetic MCCBs ≤ 630 A

P. 145 DPX³ 630 electronic release MCCBs ≤ 630 A

P. 148 DPX³ 630 earth leakage modules

P. 150 DPX³ 1600 thermal magnetic MCCBs ≤ 1250 A

P. 150 DPX³ 1600 electronic release MCCBs ≤ 1600 A

P. 154 Auxiliaries & accessories for DPX³ 630/1600

P. 154 Supervision system

P. 155 Residual current relays and coils

P. 156 DMX³ 1600 ACBs ≤ 1600 A

P. 160 DMX³ 2500/4000 ACBs ≤ 4000 A

P. 161 DMX³ 6300 ACBs ≤ 4000 A

P. 162 DMX³ - I trip free switches ≤ 6300 A

P. 165 Automatic transfer switch control units

P. 167 DPX-IS isolating switches ≤ 1600 A

P. 171 DPX³-I trip free switches ≤ 1600 A

P. 172 DCX-M changeover switches ≤ 1600 A

P. 176 Proximity switches

P. 178 SP fuse carriers

P. 179 HRC cartridge fuses

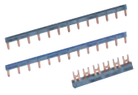
P. 180 Blade type cartridge fuses

P. 184 MPX³ MPCBs for 3-phase motors ≤ 45 kW

P. 186 CTX³ industrial contactors 9 A ≤ 800 A

P. 192 RTX³ thermal relays

Supply busbars & distribution blocks



P. 199 Supply busbars

P. 201 Modular distribution blocks ≤ 250 A

P. 202 Power distribution blocks ≤ 400 A

NEW PRODUCTS

CX³ energy management
web servers
(p. 101)

DRX™ 630 adjustable
thermal magnetic
MCCBs ≤ 630 A
(p. 131)

CX³ energy management system

4 149 19

4 149 20

4 149 23

4 149 26

4 149 29

4 149 30

4 149 32

4 149 31

Conform to IEC/EN 61131-2 (Programmable controllers)
CX³ energy management system enables to measure, control and visualize the state of ⎓ rail mounting protection devices (MCBs, RCCBs, RCBOs, etc...) and head equipment (DMX³ and DPX³), locally ("Stand alone") or remotely. All the modules of the system are equipped with two specific communication ports: one at the backside (for communication rail) and one underneath (for communication patch cords). Power supply with specific module Cat.No 4 149 45 (p. 101)
Remote configuration possible with the help of the Energy Management Configuration Software, available for free download via E-Catalogue (giving also access to a 30-day trial version of Energy Management Software Cat.No 4 149 38/39)

Measurement modules

For measuring current, voltage, active/reactive power and other values
Conform to IEC/EN 61557-12
Accuracy: class 0.5

Pack	Cat.Nos		Number of modules
		Direct connection up to 63 A	
1	4 149 19[1]	Single-phase measuring module and closed Rogowski coil up to 63 A Consumption: 0.409 W - 34.1 mA (12 V ⎓)	1
1	4 149 20[1]	3-phase measuring module and closed Rogowski coil up to 63 A Consumption: 0.418 W - 34.8 mA (12 V ⎓)	1
		Connection with CT	
1	4 149 23	5 A measuring module connected via current transformers (CT) Consumption: 0.391 W - 32.6 mA (12 V ⎓)	1

Pulse concentrator

Pack	Cat.Nos		Number of modules
1	4 149 26[1]	For collecting and transmitting measurements taken by universal pulse energy meters (water, gas, etc...) Up to 3 pulse circuits Consumption: 0.288 W - 24 mA (12 V ⎓)	1

State reporting modules

Pack	Cat.Nos		Number of modules
		Auxiliary + fault signalling contact	
1	4 149 29[1]	Indicates the position of the contacts and the fault tripping of its associated device. To fit on the left-hand side of DX³ MCBs, RCCBs, RCBOs and isolating switches Consumption: 0.236 W - 19.7 mA (12 V ⎓)	0.5
		Universal signalling module	
1	4 149 30[1]	Equipped with 3 LED lights: green, red and yellow Indicates various type of information, according to selected configuration: contacts position, plugged-in or drawn-out product, etc... Equipped with DIP switches (on the side) allowing product configuration: selection of information type and of the LED behaviour Compatible with ⎓ rail mounting protection devices or head equipment (DMX³ and DPX³) Consumption: 0.377 W - 31.4 mA (12 V ⎓)	1

Universal control module

Pack	Cat.Nos		Number of modules
1	4 149 32[1]	2 relays: 240 V ∿ - 6 A Enables to remotely control different electrical loads or motorised controls associated to ⎓ rail mounting protection devices or head equipment (DPX³ MCCBs) Equipped with DIP switches (on the side) allowing product configuration: contact type (NO + NC, 2 NO, etc...) and function (maintained or momentary contact) Consumption: 0.456 W - 38 mA (12 V ⎓)	1

Control and state reporting module

Pack	Cat.Nos		Number of modules
1	4 149 31[1]	**For CX³ latchnig relays and 1 and 2-module contactors up to 25 A** Indicates the position of the contacts and enables remote control of its associated product Equipped with DIP switches (on the side) allowing product configuration: selection of the main product (latching relay or contactor). To fit on the left-hand side of the CX³ latching relays and contactors Consumption: 0.372 W - 31 mA (12 V ⎓)	1

1: Enables upstream busbar connection

Download CX³ EMS brochure on
www.docexport.legrand.com

CX³ energy management system (continued)

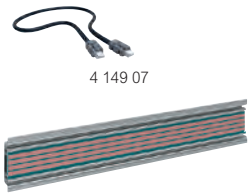
4 149 36

4 149 38

4 149 48

4 149 49

0 046 89


4 149 07

4 149 01 installed on ⎓ rail

Conform to IIEC/EN 61131-2 (Programmable controllers)
CX³ energy management system enables to measure, control and visualize the state of ⎓ rail mounting protection devices (MCBs, RCCBs, RCBOs, etc...) or head equipment (ACBs, MCCBs, etc...), locally ("Stand alone") or remotely. All the modules of the system are equipped with two specific communication ports: one at the backside (for communication rail) and one underneath (for patch cords).
Power supply with specific module Cat.No 4 149 45 (p. 101)
Remote configuration possible with the help of the Energy Management Configuration Software, available for free download via E-Catalogue (giving also access to a 30-day trial version of Energy Management Software Cat.No 4 149 38/39)

Pack	Cat.Nos	Stand alone configuration module	Number of modules
		⎓ rail mounting	
1	4 149 36[1]	Optional module for "stand alone" supervision need Enables to configure, test and control CX³ energy management system and to visualize supervision data No computer or IP connection required Consumption: 0.438 W - 36.5 mA (12 V ⎓)	4
1	0 261 56	**Door mounting touch screen** Optional touch screen allowing to: - visualize information coming from DX³, DPX³ and DMX³ protection devices and EMDX³ multi-function measuring units and - control protection devices equipped with the universal control module Cat.No 4 149 32 (p. 100) Can manage up to 9 devices Power supply: 18-30 V ⎓ IP connection For mounting on door or solid faceplate Door cut: 92 x 92 mm	
		Energy management software for 1 computer (user licence key) Allows remote configuration, test, control and visualization of data collected from EMDX³ electrical energy meters and multi-function measuring units and CX³ energy management system on one computer connected to the network 30-day free trial version available for download via E-Catalogue	
1	4 149 38	Software licence agreement (user key) for 32 Modbus adresses or 32 pulse modules	
1	4 149 39	Software licence agreement (user key) 255 Modbus adresses or 255 pulse modules	
		Energy management multi-support web servers Allow remote configuration, test, control and visualization, via a web browser on PCs, smartphones, web viewers, tablet computers, of data collected from: protection devices (DX³ add-on modules with integrated measurement control unit, DPX³ and DMX³), EMDX³ electricity meters and multi-function measuring units, CX³ energy management system and Green'up charging stations for electric vehicles. **⎓ rail mounting** Direct IP connection Power supply: 9 to 28 V ⎓ with the help of a single-phase switching mode power supply Cat.No 1 467 21 (p. 97) to be ordered separately	
	N		Number of modules
1	4 149 47	For 10 Modbus adresses or 10 pulse modules	4
1	4 149 48	For 32 Modbus adresses or 32 pulse modules	4
		Fixing on plate	
1	4 149 49	For 255 Modbus adresses or 255 pulse modules Supplied with external power supply and fixing brackets	

Pack	Cat.Nos	Communication interfaces	Number of modules
		RS485 / CX³ energy management system	
1	4 149 40	RS485 / CX³ energy management system conversion Consumption: 0.344 W - 28.7 mA (12 V ⎓)	1
		RS485 / Ethernet	
1	0 046 89	RS485 / Ethernet conversion (for connection to an IP network)	3
		Power supply module	Number of modules
1	4 149 45	500 mA 12 V ⎓ stablized power supply module for CX³ energy management system	1
		Connection accessories	
		Communication rails To be fitted on ⎓ rail or spacer Allows data transmission between the different modules of CX³ energy supervision system	
1	4 149 01[2]	18 modules	
1	4 149 02[2]	24 modules	
1	4 149 03[2]	36 modules	
		Communication patch cords Allows data transmission between the different modules of CX³ energy supervision system Can be used instead of communication rails or to create a link between two rows (individually connected with communication rails)	
1	4 149 07	Length 250 mm (10 patch cords)	
1	4 149 08	Length 500 mm (10 patch cords)	
1	4 149 09	Length 1000 mm (9 patch cords)	
		Communication patch cord connector	
1	4 149 10	Enables to extend communication patch cords length by clipping them together Max. length: 3 m	
		Plastic cover for communication rail	
1	4 149 14	Must be used for protection of the unused parts of the communication rail Length: 36 modules Can be cut to the required length. Fixing: direct clip on to the rail	

1: Enables upstream busbar connection
2: For other lengths, please consult us

Current transformers (CT)
p. 106

EMDX³ electrical energy meters

rail mounting

0 046 70

0 046 74

4 120 65

Technical characteristics **p. 107**

Measure the electricity consumed by a single-phase or three-phase circuit downstream of the electricity distribution metering
Display electricity consumption in kWh, as well as other values such as current, active energy, reactive energy and power (depending on the catalogue number)
Conform to standards IEC 62053-21/23, IEC 62052-11 and IEC 61010-1
MID compliance ensures accuracy of the metering with a view to recharging for the electricity used

Pack	Cat.Nos		
	Non-MID	MID compliant	**Single-phase meters**
			Direct connection
1	0 046 70		32 A - 1 module - Pulse output
1	0 046 81		36 A - 2 modules - Pulse output
1		4 120 69	45 A - 1 module - Pulse output
1	0 046 72	0 046 78	63 A - 2 modules - Pulse output
1	0 046 77	0 046 79	63 A - 2 modules - RS 485 output
			Three-phase meters
	Non-MID	MID compliant	**Direct connection**
1	0 046 73[1]	0 046 82	63 A - 4 modules Pulse output
1	0 046 80	0 046 83	63 A - 4 modules RS 485 output
1	4 120 74	4 120 75	125 A - 6 modules RS 485 and pulse outputs
			Connection with CT
1	0 046 74	0 046 85	5 A - 4 modules pulse output
1	0 046 84	0 046 86	5 A - 4 modules RS 485 and pulse output
1	4 120 65		**Pulse concentrator** For collecting and transmitting measurements taken by 12 universal pulse electricity meters Also collects pulses from other meters (gas meters, water meters, etc.) RS485 output 4 modules
1	4 120 00		**Measurement concentrator** Full or partial electricity metering for 5 uses: heating, cooling, domestic hot water, and power sockets + "other" 5 inputs for current transformers (up to 2 current transformers per input) 2 pulse inputs for water and gas metering LCD screen and 6-button keypad RJ45 IP output Power supply 110/230 VAC - 50/60 Hz 6 modules
1	4 120 02		**Split core current transformer** 90 A max. for the measurement concentrator Cat.No 4 120 00 Accepts : 10 x 1.5 mm² cables, or 7 x 2.5 mm² cables, or 2 x 6 mm² cables, or 1 x 10 or 16 mm² cable
1	4 120 04		**Solid core current transformer** 60 A, for the measurement concentrator Cat.No 4 120 00

1: Double tariff mettering

EMDX³ multi-function measuring units

rail mounting

4 120 45

4 120 51

Technical characteristics **p. 108**

Conform to standards:
- IEC 61557-12
- IEC 62053-22
- IEC 62053-23 class 1

Pack	Cat.Nos	**EMDX³ modular**
	N	**Multi-function measuring unit**
1	4 120 45	For mounting on ⊔ rail Width: 4 modules • LCD display • Precision class: 1 • Connection with current transformers (CT) • Measurement of currents, voltages, frequency, active, reactive and apparent power, power factor, active and reactive energy • THD voltages and currents • RS 485 and pulse output
		Multi-function measuring unit with active digital inputs and programmable alarms
1	4 120 51	For mounting on ⊔ rail Width: 4 modules • LCD display • Precision class: 0.5 • Connection with current transformers (CT) • Measurement of currents, voltages, frequency, active, reactive and apparent power, power factor, active and reactive energy • 4 tariff metering: • THD voltages, currents and harmonic analysis up to order 25 (available on Modbus COM port) • Programmable alarms on all functions • RS 485 and pulse output

EMDX³ multi-function measuring units

for mounting on door or solid faceplate

4 120 47

4 120 52

4 120 53

4 120 55

4 120 57

Technical characteristics **p. 108**

Conform to standards:
- IEC 61557-12
- IEC 62053-22
- IEC 62053-23 class 1 for Cat.No 4 120 52 - Class 2 for Cat.No 4 120 53

Pack	Cat.Nos	EMDX³ - Access multi-function measuring units
	N	**Precision class: 1**
1	4 120 47	For mounting on door or solid faceplate Dimensions: 96 x 96 x 62 mm • LCD display • Connection with current transformers (CT) • Measurement of currents, voltages, frequency, active, reactive and apparent power and power factor • Metering: - Active energy consumed or produced - Reactive energy consumed or produced • THD voltages and currents • RS 485 communication and Pulse output
		Precision class: 0.5
1	4 120 52	For mounting on door or solid faceplate Dimensions: 96 x 96 x 62 mm • LCD display • Measurement of currents, voltages, active, reactive and apparent power and power factor • Metering: - Active energy consumed or produced - Reactive energy consumed or produced - Operating time - Pulses • THD voltages, currents, and individual harmonic up to order 25(1) • RS 485 communication and Pulse output
		EMDX³ - Premium multi-function measuring unit
1	4 120 53	For mounting on door or solid faceplate Dimensions: 96 x 96 x 62 mm • LCD display • Precision class: 0.5 • Measurement of currents, voltages, active, reactive and apparent power, internal temperature and power factor • Metering: - Active energy consumed or produced - Reactive energy consumed or produced - Operating time - THD • Programmable alarms on all functions • Power quality functions: harmonics (U & I) to 40th, dips, swells, interruption, rapid voltage change and flickers • Memory embedded (8 Mb) • RTC (real time clock) Can take 4 EMDX³ optional modules
		EMDX³ modules
		Modules for EMDX³ - Premium multi-function measuring units
1	4 120 55	R485 communication module with Modbus link
1	4 120 59	Pulse ouput module for energy count 2 independent and insulated outputs
1	4 120 57	2 inputs / 2 outputs module Output can be assigned to alarms on different values
1	4 120 60	2 analog outputs module 0...20 mA and/or 4...20 mA
1	4 120 58	Temperature module 2 Pt100 inputs resistances

1: Available on Modbus COM port

EMDX³ Supervision system

4 149 38

4 149 48

Technical characteristics **p. 108**

Pack	Cat.Nos	Energy management software for 1 computer (user licence key)
		Allows remote configuration, test, control and visualization of data collected from EMDX³ electrical energy meters and multi-function measuring units and CX³ energy management system on one computer connected to the network 30-day free trial version available for download via E-Catalogue
1	4 149 38	Software licence agreement (user key) for 32 Modbus adresses or 32 pulse modules
1	4 149 39	Software licence agreement (user key) 255 Modbus adresses or 255 pulse modules
		Energy management multi-support web servers
		Allow remote configuration, test, control and visualization, via a web browser on PCs, smartphones, web viewers, tablet computers, of data collected from: protection devices (DX³ add-on modules with integrated measurement control unit, DPX³ and DMX³), EMDX³ electricity meters and multi-function measuring units, CX³ energy management system and Green'up charging stations for electric vehicles.
		rail mounting Direct IP connection Power supply: 9 to 28 V ⎓ with the help of a single-phase switching mode power supply Cat.No 1 467 21 (p. 97) to be ordered separately
	N	Number of modules
1	4 149 47	For 10 Modbus adresses or 10 pulse modules — 4
1	4 149 48	For 32 Modbus adresses or 32 pulse modules — 4
		Fixing on plate
1	4 149 49	For 255 Modbus adresses or 255 pulse modules Supplied with external power supply and fixing brackets
		Communication interface
		RS485 / Ethernet
1	0 046 89	For RS 485 / Ethernet conversion (for connection to an IP network) — Number of modules: 3

Current transformers (CT)
p. 106

Measurement and display via e-communication

selection table

PROTECTION DEVICES WITH INTEGRATED MEASUREMENT FUNCTION

PROTECTION & MEASUREMENT		COMMUNICATION
DMX³ with electronic protection unit (p. 160-161)	+	DMX³ communication option Cat.No 0 288 05 (p. 161)
DPX³ with electronic release and energy metering central unit (p. 140, 146, 147, 151 and 152)	+	Communication interface Cat.No 4 210 75 (p. 105)
DX³ add-on module with integrated measurement unit (p. 71)	+	Communication interface Cat.No 4 210 75 (p. 105)

PROTECTION DEVICES IN ASSOCIATION WITH EMDX³ MULTIFUNCTION MEASURING UNITS OR CX³ EMS

PROTECTION		MEASUREMENT & COMMUNICATION
DMX³ with electronic protection unit (p. 160-161)	+	EDMX³ multifunction measuring units on ⊔ rail (p. 102) → RS 485 output
		or
DPX³ with thermal magnetic or electronic release (p. 136 - 154)	+	EDMX³ multifunction measuring units on door (p. 103) → RS 485 output
		or
DX³ MCBs (p. 60 - 71)	+	CX³ EMS measurement modules + Communication interface Cat.No 4 149 40 (p. 100 - 101)

DISPLAY

RS 485/IP converter
Cat.No 0 046 89 (p. 101)

+

Door mounting touch screen
Cat.No 0 261 56 (p. 101)

or

User licence key
Cat.Nos. 4 149 38/39 (p. 101)
for displaying on 1 PC only

or

Energy management multi-support web servers (p. 101):
- Cat.Nos 4 149 47/48 (direct IP connection)
- Cat.No 4 149 49 + RS 485/IP converter Cat.No 0 046 89 (p. 101) for displaying on one or multiple PCs, tablets, smartphones

Power supervision system

remote control, monitoring and measurement

0 261 37

0 261 36

0 261 45

4 149 38

4 149 48

4 149 49

With the Legrand Power supervision system, circuit breakers are integrated in a supervision system
You can therefore check the status of the circuit breakers, measure the electrical values and control the circuit breakers remotely
MODBUS protocol

RS485 Modbus communication interfaces

Pack	Cat.Nos	
		DPX electronic interface
1	0 261 37	For reading information from an electronic DPX : phase 1, 2 and 3 currents, the currents in the neutral, the temperature (electronic card), the nominal current and the DPX settings Dimension: 2 modules Power supply: 24 V~ / ⎓ . RS 485 link (2-wire) Address, speed and coding can be modified with configurator kit
		DPX³ electronic interface
1	4 210 75	For connecting electronic DPX³ (except DPX³ 630 and 1600 S1 electronic releases) to an RS485 Modbus communication network All the information managed by the circuit breaker's electronic card will be shared on the Modbus network Dimension: 1 module Power supply: 24 V~ / ⎓ . RS 485 link (2-wire) Address, speed and coding can be modified with configurator kit
		RS 485 Modbus communication option for DMX³
1	0 288 05[1]	Option making the DMX³ capable of communicating for supervision

Modular power supply

Pack	Cat.Nos	
1	0 035 67	230 V~ - 27 V⎓ - 0.6 A 2 modules

DPX and DX³ signalling and control interface

Pack	Cat.Nos	
1	0 261 36	Signalling and control interface between the power supervision system and the thermal magnetic and electronic circuit breakers. Equipped with analogue / digital inputs and relay outputs. Can handle multiple circuit breakers. - 24 inputs for collecting information from the signalling auxiliaries on the DPX and DX³ circuit breakers: auxiliary contact NO position (1 input) or NO+NC position (2 inputs), fault signal (1 input) - 6 outputs for: the remote control of the motor driven circuit breakers (2 outputs) and for tripping the circuit breakers for testing purposes (1 output) Dimension: 6 modules Power supply: 24 V~ / ⎓ RS 485 link (2-wire) Address, speed and coding can be modified with configuration kit.

1: Factory fitted

Accessories

Pack	Cat.Nos	
		Configurator kit
1	0 261 45	For configuring the DPX and DPX³ I/O card and interface Kit with configurators 0 to 9 (10 configurators for each digit)
		Single phase stabilised power supply
1	1 466 23	For supplying communication devices Primary 115-230 V 24 V⎓

Power (W)	Current (A)	Flexible cable terminal capacity	
		Input (mm²)	Output (mm²)
120	5	6	2 x 6

Pack	Cat.Nos	
1	0 046 89	**IP converter** For RS 485/Ethernet conversion for connecting electricity meters and measurement control units to an IP network Supply voltage 90-260 V~ 80/60 HZ Dimension: 2 modules

Energy management software for 1 computer (user licence key)

Pack	Cat.Nos	
		Allows remote configuration, test, control and visualization of data collected from EMDX³ electrical energy meters and multi-function measuring units and CX³ energy management system on one computer connected to the network 30-day free trial version available for download via E-Catalogue
1	4 149 38	Software licence agreement (user key) for 32 Modbus adresses or 32 pulse modules
1	4 149 39	Software licence agreement (user key) 255 Modbus adresses or 255 pulse modules

Energy management multi-support web servers

Allow remote configuration, test, control and visualization, via a web browser on PCs, smartphones, web viewers, tablet computers, of data collected from: protection devices (DX³ add-on modules with integrated measurement control unit, DPX³ and DMX³), EMDX³ electricity meters and multi-function measuring units, CX³ energy management system and Green'up charging stations for electric vehicles.

⎓ rail mounting

Direct IP connection
Power supply: 9 to 28 V ⎓ with the help of a single-phase switching mode power supply Cat.No 1 467 21 (p. 97) to be ordered separately

Pack	Cat.Nos		Number of modules
1	4 149 47	For 10 Modbus adresses or 10 pulse modules	4
1	4 149 48	For 32 Modbus adresses or 32 pulse modules	4
		Fixing on plate	
1	4 149 49	For 255 Modbus adresses or 255 pulse modules Supplied with external power supply and fixing brackets	

Automatic transfer switch control units
p. 165

EMDX³ measurement control units
p. 102

Current transformers (CT)

4 121 42

4 121 58

4 121 62

Technical characteristics **see e-catalogue**

Single-phase solid core current transformers

Used with ammeters, electricity meters or multi-function measuring units
Current at the secondary: 5 A
Can be fixed on plate, EN 60715 ⎽⎽ rail Cat.No 4 121 01/02/03/04/05/06/07, or bars
Secondary connected by terminals or lugs
Precision class: 0,5 % (1 % for Cat.No 4 121 01/02)

Pack	Cat.Nos	Transformation ratio	Output (VA)
		For 16 x 12,5 mm bar or Ø21 mm cable	
1	4 121 01	50/5	1,25
1	4 121 02	75/5	1,5
1	4 121 03	100/5	2
1	4 121 04	125/5	2,5
1	4 121 05	160/5	3
1	4 121 06	200/5	4
1	4 121 07	250/5	5
		For 32,5 x 10,5 and 25,5 x 15,5 mm bars or Ø27 mm cable	
1	4 121 12	400/5	10
1	4 121 14	600/5	12
		For 40,5 x 12,5 and 32,5 x 15,5 mm bars or Ø26 mm cable	
1	4 121 16	250/5	3
1	4 121 17	400/5	6
1	4 121 19	700/5	8
		For 40,5 x 10,5, 32,5 x 20,5 and 25,5 x 25,5 mm bars or Ø32 mm cable	
1	4 121 23	250/5	3
1	4 121 24	300/5	5
1	4 121 25	400/5	8
1	4 121 26	600/5	12
		For 50,5 x 12,5 and 40,5 x 20,5 mm bars or Ø40 mm cable	
1	4 121 31	700/5	8
1	4 121 32	800/5	8
1	4 121 33	1000/5	10
		For 65 x 32 mm bar	
1	4 121 36	600/5	8
1	4 121 38	800/5	12
1	4 121 39	1000/5	15
		For 84 x 34 mm bar	
1	4 121 42	1250/5	12
		For 127 x 38 mm bar	
1	4 121 46	1600/5	10
1	4 121 47	2000/5	15
1	4 121 49	3200/5	25
		For 127 x 54 mm bar	
1	4 121 50	1600/5	20
1	4 121 51	2000/5	25
1	4 121 52	2500/5	30
1	4 121 53	3200/5	30
1	4 121 54	4000/5	30

Three-phase solid core current transformers

Used with ammeters, electricity meters or multi-function measuring units
Current at the secondary: 5 A
For fixing directly on bars
Secondary connected by terminals or lugs
Precision class: 1 %

Pack	Cat.Nos	Transformation ratio	Output (VA)
		For three 20,5 x 5,5 mm bars	
1	4 121 57	250/5	3
		For three 30,5 x 5,5 mm bars	
1	4 121 58	400/5	4

Single-phase split-core current transformers

Used with ammeters, electricity meters or multi-function measuring units
Current at the secondary: 5 A
For fixing directly on bars
Secondary connected by terminals or lugs
Precision class: 0,5 %

Pack	Cat.Nos	Transformation ratio	Output (VA)
		For 50 x 80 mm bar	
1	4 121 62	400/5	1,5
1	4 121 63	750/5	3
		For 80 x 120 mm bar	
1	4 121 64	1000/5	5
1	4 121 65	1500/5	8
		For 80 x 160 mm bar	
1	4 121 66	2000/5	15
1	4 121 67	2500/5	15
1	4 121 68	3000/5	20
1	4 121 69	4000/5	20

Viking 3 disconnector block for measurement - 1 connection

With its accessories, allows intervention (measurement, maintenance, etc) on a current, voltage and power measuring circuit by keeping the current transformer secondary circuit closed

Pack	Cat.Nos	Colour	Nominal cross section (mm^2)	Capacity: Rigid wire (mm^2)	Capacity: Flexible wire (mm^2)	Pitch (mm^2)
25	0 371 92	Grey	4	0.25 to 4	0.25 to 4	8

EMDX³ electrical energy meters

rail mounting

Technical characteristics

Single-phase meters Cat.Nos 0 046 70/72/77/78/79/81 and 4 120 69

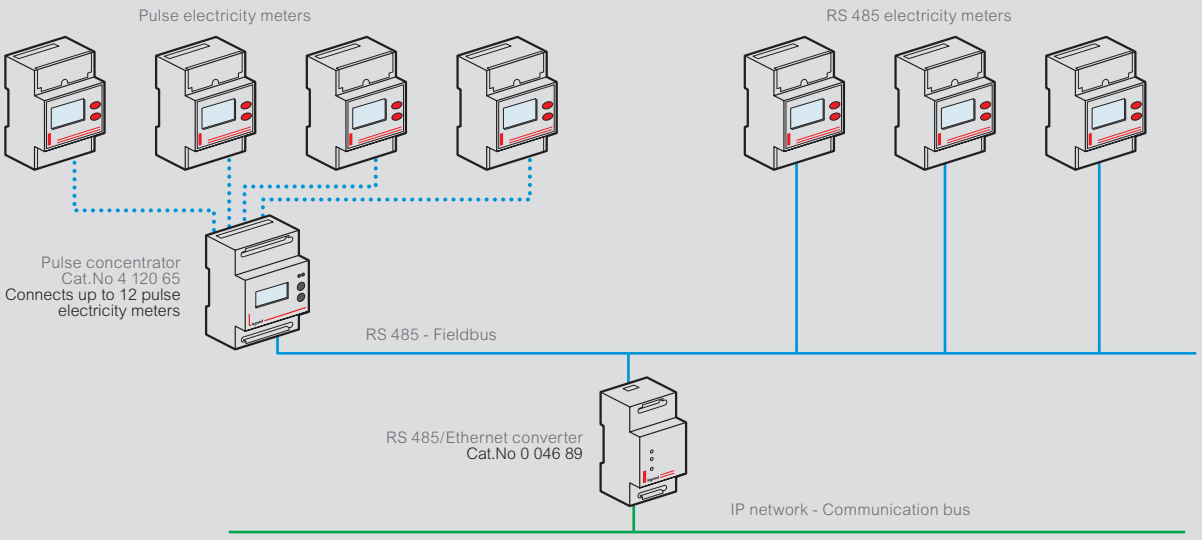
LCD display: 7 digits
Resolution: 0.1 kWh
Maximum indication: 99999.9 kWh
Metrological LED: 1 Wh/pulse (Cat.No 0 046 70 : 0.5 Wh/pulse)
Accuracy (EN 62053-21): class 1
Reference voltage Un: 230 V-240 V
Reference frequency: 50-60 Hz

Three-phase meters Cat.Nos 0 046 73/74/80/82/83/84/85/86 and 4 120 74/75

LCD display: 8 digits ; Resolution: 0.01 kWh(1)
Maximum indication: 99999.99 kWh(1)
Metrological LED: 0.1 Wh/pulse or 1 Wh/pulse
Active energy accuracy (EN 62053-21): class 1
Reactive energy accuracy (EN 62053-23): class 2
Reference voltage Un:
- Single-phase: 230-240 V / Three-phase: 230 (400) - 240 (415) V
Operating limit range (EN 62053-21, EN 62053-23):
- Single-phase: 110 to 254 V / Three-phase: 110 (190) to 254 (440) V
Pulse output: 1 pulse/10 Wh

Cat.Nos		0 046 70	4 120 69	0 046 81	0 046 72	0 046 77	0 046 78	0 046 79	0 046 73	0 046 80	0 046 82	0 046 83	4 120 74	4 120 75	0 046 74	0 046 84	0 046 85	0 046 86
Number of modules		1	1	2	2	2	2	2	4	4	4	4	6	6	4	4	4	4
Connection	Direct	●	●	●	●	●	●	●	●	●	●	●	●	●				
	Via a current transformer														●	●	●	●
	Single-phase	●	●	●	●	●	●	●							●	●		
	Three-phase								●	●	●	●	●	●	●	●	●	●
Max. current		32 A	45 A	36 A	63 A	63 A	63 A	63 A	63 A	63 A	63 A	63 A	125 A	125 A	5 A (CT)	5 A (CT)	5 A (CT)	5 A (CT)
Metering and measurement	Total active energy	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Total reactive energy								●	●	●	●	●	●	●	●	●	●
	Partial active energy (reset)			●	●	●	●	●	●	●	●	●	●	●	●	●		
	Partial reactive energy (reset)								●	●	●	●	●	●	●	●		
	Active power				●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Reactive power								●	●	●	●	●	●	●	●	●	●
	Apparent power								●	●	●	●	●	●	●	●	●	●
	Current				●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Voltage				●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Frequency				●	●			●	●	●	●	●	●	●	●	●	●
	Power factor				●	●			●	●	●	●	●	●	●	●	●	●
	Time-of-use				●	●							●	●				
	Average active power								●	●	●	●	●	●	●	●	●	●
	Max. average active power value								●	●	●	●	●	●	●	●	●	●
	Dual tariff								●				●	●				
Communication	Pulse output	●	●	●	●		●		●		●		●	●	●	●	●	●
	RS 485 interface					●		●		●		●	●	●		●		●
MID compliant			●				●	●			●	●	●	●			●	●
Operating conditions	Reference temperature	23 °C ± 2 °C																
	Operating temperature	-20 to +55 °C	-5 to +55 °C	-10 to +45 °C					-5 to +55 °C									
	Storage temperature	-40 to +70 °C	-25 to +70 °C	-25 to +70 °C					-25 to +70 °C									
	Consumption	≤ 8 VA							≤ 4 VA per phase				≤ 2 VA per phase		≤ 1 VA per phase			
	Heat dissipation	≤ 6.5 W							≤ 6 W						≤ 4 W			

Interfacing with IP communication network



1: For direct connection meters
If connected via transformers, the resolution and maximum indication depend on the transformation ratios of these transformers

EMDX³ multi-function measuring units

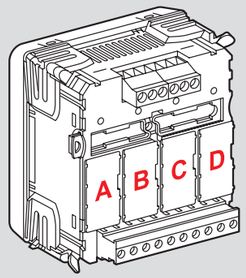
Technical characteristics

Cat.Nos			4 120 45	4 120 47	4 120 51	4 120 52	4 120 53
Connection	Current measurement terminals	Flexible cable	4 mm²	4 mm²	4 mm²	4 mm²	4 mm²
		Rigid cable	6 mm²	6 mm²	6 mm²	6 mm²	6 mm²
	Other terminals	Flexible cable	2.5 mm²	2.5 mm²	2.5 mm²	2.5 mm²	2.5 mm²
		Rigid cable	4 mm²	4.5 mm²	4 mm²	4 mm²	4 mm²
Protection index	Front cover		IP 54	IP 54	IP 54	IP 54	IP 54
	Casing		IP 20	IP 20	IP 20	IP 20	IP 20
Weight			250 g	285 g	250 g	285 g	285 g
Display	Type		Backlit LCD	Backlit LCD	Backlit LCD	Backlit LCD	Backlit LCD
	Refresh time		1.1 s	1.1 s	1 s	1 s	1 s
Measurements			1P+N, 3P, 3P+N	1P+N, 3P, 3P+N	1P+N, 3P, 3P+N	1P+N, 3P, 3P+N	1P+N, 3P, 3P+N
Voltage measurement	Direct	Phase/Phase	80 - 500 V	50 - 460 V	80 - 500 V	80 - 500 V	80 - 690 V
		Phase/Neutral	50 -290 V	86 -260 V	50 -290 V	50 - 290 V	50 - 400 V
	From PT	Primary	-	-	max. 1200 V	max. 1200 V	max. 150 kV
		Secondary	-	-	-	-	-
	Update period		0.8 s	0.3 s	0.2 s	0.2 s	0.2 s
Current measurement	Direct		-	-	-	-	-
	From a CT	Primary	50 kA	50 kA	max. 10 kA (X/1 A) or 50 kA (X/5A)	max. 10 kA (X/1 A) or 50 kA (X/5A)	max. 10 kA (X/1 A) or 50 kA (X/5A)
		Secondary	5 A	5 A	1 A or 5 A	1 A or 5 A	1 A or 5 A
	Minimum measurement		10 mA	10 mA	5 mA	5 mA	5 mA
	Input consumption		≤ 1 VA	≤ 1 VA	≤ 1 VA	≤ 1 VA	≤ 0,2 VA
	Permanent overload		1.2 In	1.2 In	1.2 In	1.2 In	1.2 In
	Intermittent overload		20 In / 0.5 s	20 In / 0.5 s	20 In / 0.5 s	20 In / 0.5 s	20 In / 0.5 s
	Update period		0.2s	0.2s	0.2s	0.2 s	0.2 s
	Max. CT x PT ratio		9999	9999	99990	99990	10000000 (x/1 A) 2000000 (x/5 A)
Power measurement	Total		0 - 9999 kW/ kVAr / kVA	0 - 9999 kW/ kVAr / kVA	0 - 9999 kW/ kVAr / kVA 0 - 9999 MW I MVAr / MVA	0 - 9999 kW/ kVAr / kVA 0 - 9999 MW I MVAr / MVA	0 - 9999 kW/ kVAr / kVA 0 - 9999 MW I MVAr / MVA
	Update period		0.2 s	0.2 s	0.2 s	0.2 s	0.2 s
Frequency measurement	Measurement range		45/65 Hz	45/65 Hz	45/65 Hz - 360/440 Hz	45/65 Hz - 360/440 Hz	45/65 Hz
	Update period		0.2 s	0.2 s	0.2 s	0.2 s	0.2 s
Auxiliary power supply	50 / 60 Hz		230 V ± 10%	Self-supplied	80 - 265 V ± 10%	80 - 265 V ± 10%	80 - 265 V ± 10%
	d.c.		-	-	100 - 300 V ± 10%	100 - 300 V ± 10%	100 - 300 V ± 10%
	Consumption	a.c.	≤ 2.5 VA	≤ 2.5 VA	≤ 2.5 VA	≤ 2.5 VA	≤ 2.5 VA
		d.c.	–	–	≤ 2.5 W	≤ 3.5 W	≤ 3.5 W
Operating temperature			from - 5° C to + 55° C	from - 5° C to + 55° C	from - 5° C to + 55° C	from - 5° C to + 55° C	from - 5° C to + 55° C
Storage temperature			from - 25° C to + 70° C	from - 25° C to + 70° C	from - 25° C to + 70° C	from - 25° C to + 70° C	from - 25° C to + 70° C

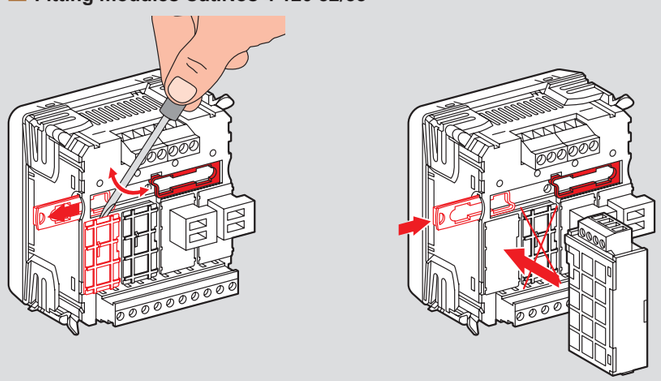
1: except for Cat.No 4 120 53 - 50 Hz only

Maximum number of modules and installing position for multi-function measuring unit Cat.No 4 120 53

Cat.Nos	Designation	Max. number	EMDX³-Premium 4 120 53
4 120 55	RS 485 communication module	1	A
4 120 57	2 inputs / 2 outputs module	2	C, D
4 120 58	Temperature module	1	D
4 120 59	Pulse output module for energy count	2	A, B, C, D
4 120 60	2 analog outputs module	2	C, D

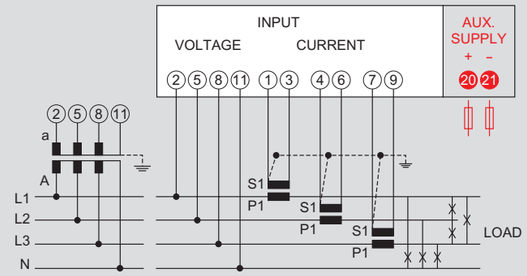


Fitting modules Cat.Nos 4 120 52/53

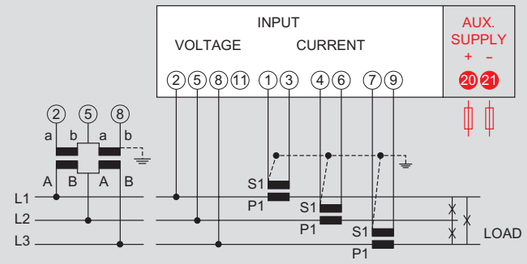


Connection solutions

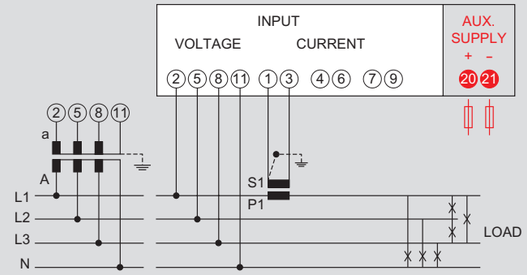
Unbalanced three-phase network (4-wire)



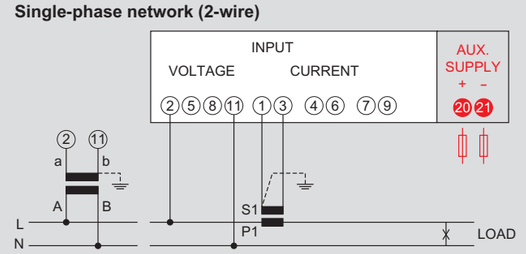
(3-wire)



Balanced three-phase network (3-wire)



Single-phase network (2-wire)



Wiring example of communication network

0 046 02

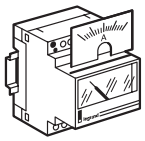
0 046 00

0 046 63

Dimensions **see e-catalogue**

Analogue metering devices

Pack	Cat.Nos		Number of modules
		Ammeters	
		Measure the intensity in Amperes (A) of the current circulating in an electrical circuit	
1	0 046 02	Direct connection AC or DC Scale: 0 - 30 A - supplied with dial	4
1	0 046 00	Connected via a 0 - 5 A output current transformer (CT)	4
		Measuring dials for ammeter Cat.No 0 046 00	
2	0 046 10	0-50 A	
2	0 046 13	0-100 A	
2	0 046 15	0-200 A	
2	0 046 16	0-250 A	
2	0 046 17	0-300 A	
2	0 046 18	0-400 A	
2	0 046 20	0-600 A	
2	0 046 21	0-800 A	
2	0 046 22	0-1000 A	
2	0 046 66	0-1250 A	
2	0 046 24	0-1500 A	
2	0 046 25	0-2000 A	
		Voltmeter	
		Measure the AC or DC voltage in a circuit in volts (V)	
1	0 046 60	Scale: 0-500 V	4



Digital ammeter / voltmeter

Pack	Cat.Nos		Number of modules
		- Ammeter mode: connected via a 0 - 5 A current transformer (CT) Reading range adjusted according to CT used - Voltmeter mode: measures the AC or DC voltage of an electrical circuit; scale 0 - 600 V	
1	0 046 63	Voltage: 230 V~ - 50/60 Hz Reading: I - 0 to 8000 A U - 0 to 500 V	4

Selective measurement switches

Pack	Cat.Nos		Number of modules
		For manual selection of the circuits to be measured	
		Ammeter cam switch	
		For measuring the current in a circuit with one ammeter, connected via a current transformer (CT)	
1	0 046 50	3-phase, 4-position cam switch	3
		Voltmeter cam switches	
		For measuring the voltages in a circuit with one voltmeter	
1	0 046 52	3-phase, 4-position cam switch	3
1	0 046 53	3-phase with neutral, 7-position cam switch	3

Digital frequency meter

Pack	Cat.Nos		Number of modules
		For measuring the frequency of a 230 V~ electrical circuit in hertz (Hz) Supply voltage 230 V~ (connected to circuit to be measured)	
1	0 046 64	Green LED 3 digit display - 40-80 Hz display	4

Totalising hour counters

Pack	Cat.Nos		Number of modules
		Count the operating hours of a machine or an electrical device to determine its exact operating time Counter with numerical display Capacity: 5 digits + 2 decimal places (1 unit = 1 hour) Precision: 1/100th hour Consumption: 0.2 VA	
1	0 046 94	230 V~ - 50 Hz	2
1	0 046 91	24 V~ - 50 Hz	2

Current transformers (CT)
p. 106

0 146 00 + 0 146 16

0 146 61

0 495 55

Ammeters, voltmeters, totalising, can be mounted on XL³ 800 and XL³ 4000 curved doors

Pack	Cat.Nos	Analogue metering devices
		Ammeters
		Measure the intensity in amperes (A) of the current Connected via a 0 - 5 A output current transformer (CT) To be fitted with a measuring dial appropriate for the current to be measured
1	0 146 00	Round barrel Ø56 mm
1	0 146 01	Square barrel 68 x 68 mm
		Measuring dial for ammeters
		Supplied by set of 2 (1 for round barrel, 1 for square barrel)
1	0 146 10	0 - 50 A
1	0 146 13	0 - 100 A
1	0 146 15	0 - 200 A
1	0 146 16	0 - 250 A
1	0 146 17	0 - 300 A
1	0 146 18	0 - 400 A
1	0 146 20	0 - 600 A
1	0 146 21	0 - 800 A
1	0 146 22	0 - 1000 A
1	0 146 66	0 - 1250 A
1	0 146 24	0 - 1500 A
1	0 146 25	0 - 2000 A
1	0 146 26	0 - 2500 A
1	0 146 28	0 - 4000 A
		Voltmeters
		Measure the voltage in volts (V) AC ou DC Scale: 0 - 500 V
1	0 146 60	Round barrel Ø56 mm
1	0 146 61	Square barrel 68 x 68 mm
		Totalising hour counters (48 x 48)
		One-piece device - IP 40 Front mounting on enclosure or cabinet doors Synchronous motor operation (operation indicator) For counting the operating hours of an electrical machine or device, with no reset Supplied with cover frame (55 x 55 mm) (for round cut-out) and fixing accessories Connection: 2 x 1.5 mm²
1	0 495 52	24 V~ - 50 Hz
1	0 495 53	110 to 120 V~ - 50 Hz
1	0 495 54	110 to 120 V~ - 60 Hz
1	0 495 55	200 to 240 V~ - 50 Hz
1	0 495 58	48 V~ - 50 Hz
1	0 495 59	400 V~ - 50 Hz
1	0 495 60	12 to 36 V⎓
100	0 495 97	Frame 55 x 55 mm

Metering devices on rail

Technical characteristics

Analogue ammeters

Type of measurement	Analogue Ferromagnetic	
Frequency	50 to 60 Hz	
Precision	1.5 %	
Operating temperature	- 10 °C to + 40 °C	
Storage temperature	- 20 °C to + 80 °C	
Consumption:		
• voltage circuit	-	
• measurement circuit	1.1 VA	
Connection capacity	Direct	Par TI
	6 mm²	4 mm²
Conformity to standards	NF EN 61010-1	

Analogue Voltmeters

Type of measurement	Analogue Ferromagnetic integration
Frequency	50 to 60 Hz
Precision	1.5 %
Operating temperature	- 10°C to + 40°C
Storage temperature	- 20°C to + 80°C
Consumption	3 VA
Connection capacity	2 x 2.5 mm²
Conformity to standards	NF EN 61010-1

Digital frequency meter

Type of measurement	Quartz electronic
Precision	± 0.2 % for ± 1 digit
Operating temperature	- 10°C to + 40°C
Storage temperature	- 20°C to + 70°C
Consumption	4.5 VA
Connection capacity	2 x 2.5 mm²
Conformity to standards	NF EN 61010-1

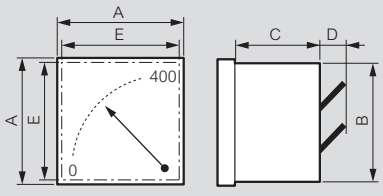
Analogue metering devices on door

Technical characteristics

Frequency: 50/60 Hz
Precision class: 1.5 %
Operating temperature: - 10 °C to + 40 °C
Storage temperature: - 20 °C to + 80 °C
Consumption:
- ammeter: 1.1 VA
- voltmeter: 3 VA
Connection capacity: 2 x 2.5 mm² with screws or
Conform to IEC 60051, VDE 0410, BS 89,
EN 60051-1, cenelec HD 223

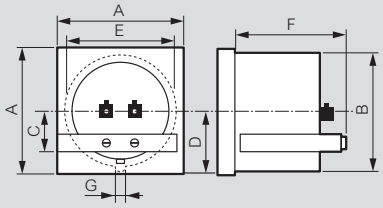
Dimensions

Cat.Nos 0 146 01/61

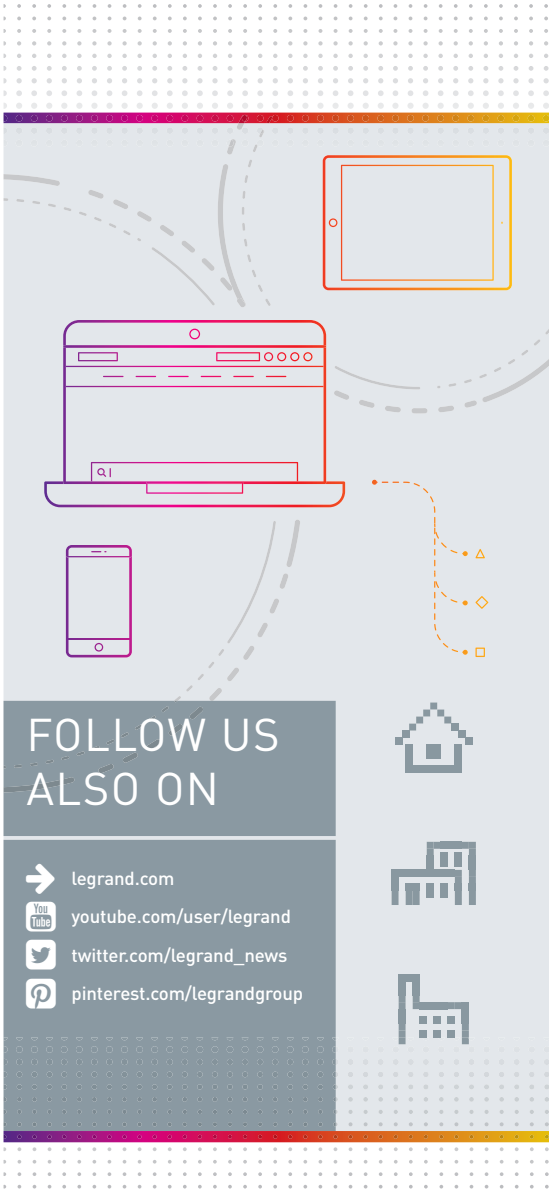


Dimensions (mm)				
A	B	C	D	E
72	66.5	44	12	68±0,7

Cat.Nos 0 146 00/60



Dimensions (mm)						
A	B	C	D	E	F	G
72	Ø55	21.4	28.5	56	46	3.2



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