

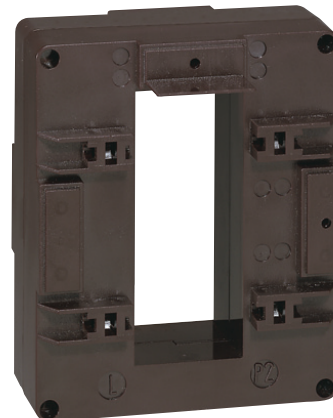
Electrical energy metering on door



146 61



146 65



047 79

Pack Cat. No. Analogue metering devices - panel mounting

		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	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	146 10	0 - 50 A
1	146 13	0 - 100 A
1	146 15	0 - 200 A
1	146 16	0 - 250 A
1	146 17	0 - 300 A
1	146 18	0 - 400 A
1	146 20	0 - 600 A
1	146 21	0 - 800 A
1	146 22	0 - 1000 A
1	146 66	0 - 1250 A
1	146 24	0 - 1500 A
1	146 25	0 - 2000 A
1	146 26	0 - 2500 A
1	146 28	0 - 4000 A
		Voltmeters
		Measure the voltage in volts (V) AC ou DC Scale: 0 - 500 V
1	146 61	Square barrel 68 x 68 mm

Digital central measuring units

Enables via a 0 - 5 A output current transformer (CT), measuring electrical values for low voltage applications

		Multi-function centrals
		For measuring: current and voltage per phase, frequency, power factor, active and reactive energy...
		Adapts to 3-phase balanced or unbalanced supplies with or without neutral
		Max. measurement: 8000 A 220 V
1	146 65	Standard
1	146 67	Communicating Modbus/JBUS Data speed transmission: 1200 to 9600 Bauds

Pack Cat. No. Current transformers (CT)

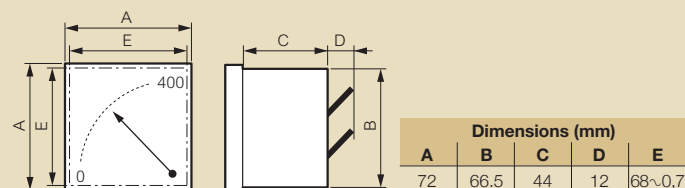
		Used with ammeters, electricity meters and central measuring units Supply a current of 0 to 5 A to the secondary which is proportional to the primary current Can be fixed on plate, on rail 4 EN 60715, on bars Secondary joining with terminals for lugs, cage terminals Precision class: 1 %								
		Single phase CT for bar 16 x 12.5 mm and cable Ø21 mm								
		<table><tr><th>Transformation ratio</th><th>Power (VA)</th></tr><tr><td>50/5</td><td>1.25</td></tr><tr><td>100/5</td><td>2.5</td></tr><tr><td>200/5</td><td>5.5</td></tr></table>	Transformation ratio	Power (VA)	50/5	1.25	100/5	2.5	200/5	5.5
Transformation ratio	Power (VA)									
50/5	1.25									
100/5	2.5									
200/5	5.5									
1	046 31									
1	046 34									
1	046 36									
		Single phase CT for bar 20.5 x 12.5 and 30 x 10.5 mm and cable Ø23 mm								
1	047 75	300/5 11								
		Single phase CT for bar 40.5 x 10.5 mm and cable Ø35 mm								
1	046 38	400/5 12								
		Single phase CT for bar 65 x 32 mm								
1	047 76	600/5 12								
1	047 77	800/5 15								
1	047 78	1000/5 20								
		Single phase CT for bar 84 x 34 mm								
1	047 79	1250/5 15								
		Single phase CT for bar 127 x 38 mm								
1	046 45	1500/5 15								
1	046 46	2000/5 20								
		Single phase CT for bar 127 x 54 mm								
1	047 80	2500/5 50								
1	046 48	4000/5 50								

Electrical energy metering on door

■ Analogue metering devices

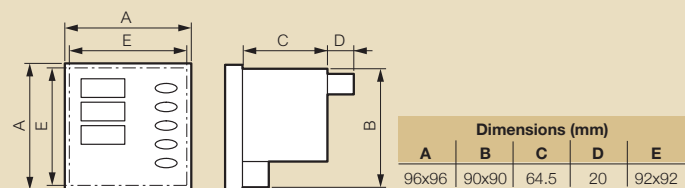
Frequency: 50/60 Hz
 Precision class: 1.5 %
 Operating temperature: - 10° C to + 40° C
 Storage temperature: - 20° C to + 80° C
 Consumption:
 ammeter: 1.1 VA
 voltmeter: 3 VA
 Connection capacity: 2 x 2.5 mm² with screws or
 Conform to IEC 60051, VDE 0410, BS 89,
 EN 60051-1, cenelec HD 223

Cat. No. 146 01/61

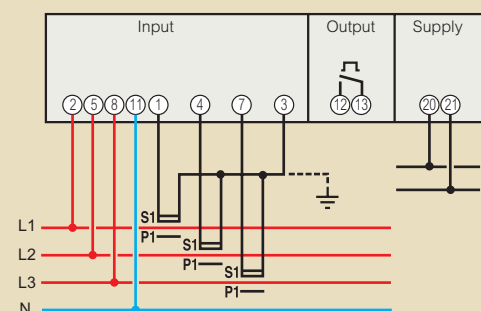


■ Digital central measuring units

- Precision class:
 voltage: ~ 0.5 %
 current: ~ 0.5 %
 power: ~ 1.5 %
 power factor: ~ 2 %
 frequency: ~ 0.15 Hz
 Active energy: class 2
 Reactive energy: class 3
- Consumption:
 voltage: 0.5 VA / phase
 current: 0.75 VA / phase
- Auxiliary power supply:
 single-phase voltage 230 V (196 to 253 V)
 frequency 50 Hz (47 to 63 Hz)
 self consumption 6 VA - 3.5 W



Output:
 Energy pulse duration = 100 ms via volt free contact:
 - for 5 A, 1 pulse/Wh
 - from 20 to 150 A, 1 pulse/10 Wh
 - from 200 to 1600 A, 1 pulse/100 Wh
 - from 2000 to 8000 A, 1 pulse/kWh
 Breaking capacity 110 V ~ = - 50 mA
 4-wire connection - 3 CT:



■ Current transformer

Degree of protection: IP 20
 Frequency: 50/60 Hz

Dimensions

	Opening for cable Ø max. (mm)	Opening for bar width x th. (mm)	Fixing center for fixing on plate (mm)
Single phase CT			
CT 50/5 100/5 200/5	Ø21	16 x 12.5	on rail EN 50022
CT 300/5	Ø23	20.5 x 12.5 25.5 x 11.5 30.5 x 10.5	50 x 45
CT 400/5	Ø35	40.5 x 10.5	54 x 45
CT 600/5 800/5 1000/5	-	65 x 32	fix on bar
CT 1250/5	-	84 x 34	fix on bar
CT 1500/5 CT 2000/5	-	127 x 38	fix on bar
CT 2500/5 4000/5	-	127 x 54	fix on bar

Electrical energy metering on rail



046 81



046 72



046 74



046 65



Dimensions (p. 100)

Measure the electrical energy consumed by a single phase or 3-phase circuit downstream of the metering of energy distributor
Provide a clear display of the consumption in kWh
Class I precision for energy active for Cat. No. 046 73 and 046 74 in accordance with IEC 62053-21/23
Class II precision for energy active for Cat. No. 046 81 and 046 72 in accordance with IEC 62053-21/23 (with a sealable box)

Pack	Cat. No.	Single phase meters	Number of modules
1	046 81	Direct connection Power supply: 230 V~ - 50/60 Hz Without pulse transmitter Up to 32 A Display: LCD screens 6 digits including 1 decimal place 1 unit = 0.1 kWh Partial counting with reset	2
1	046 72	With pulse transmitter Up to 63 A Display: LCD screen 6 digits including 1 decimal place 1 unit: 0.1 kWh Partial counting with reset With pulse transmitter to feed back remote electrical energy consumption pulse output: 1 imp/10 Wh	2

Pack	Cat. No.	3-phase meters	Number of modules
1	046 73	Display: LCD screen 8 digits, 1 unit: 0.01 kWh With pulse transmitter to feed back remote electrical energy consumption measurements via volt-free contact Partial counting with reset Direct connection Up to 63 A per phase Power supply: - 230 V~ - 50/60 Hz (3 phase) - 400 V~ - 50/60 Hz (3 phase + N) Programmable pulse output: 1 x 200 ms pulse every 1 kWh (default value)	4
1	046 74	Connection via a 0 - 5 A current transformer (CT) Power supply: - 230 V~ - 50/60 Hz (3 phase + N) - 400 V~ - 50/60 Hz (3 phase + N) Programmable pulse output: 1 x 200 ms pulse every 1 kWh (default value) Current transformation ratio: 50/5 to 8000/5	4

Pack	Cat. No.	Central measuring units
1	046 65	Multi-function centrals Measure via a 0 - 5 A output current transformer (CT), electrical values for low voltage applications: For measuring current per phase, phase-to-phase voltage, frequency, power factor, instantaneous power (active, reactive, apparent), active and reactive energy Adapt to 3-phase balanced or unbalanced supplies with or without neutral 220 V - max. measurement: 8000 A
1	046 67	Standard Communicating Modbus/JBUS Data speed transmission: 1200 to 9600 Bauds

Multi-function central unit

Technical characteristics

Display:

3 green LED displays with manual selection:

- Current per phase
- Phase-to-phase voltage
- Phase voltage
- Instantaneous power: active, reactive and apparent
- Frequency and power factor (inductive/capacitive indication)
- Active energy

Unit of measurement: display according to the CT ratios

Automatic change of rating

Energy metering: totalising 9 digits in kWh, resolution 10 Wh

Input:

Voltage measurement consumption < 1 VA per phase

Current measurement consumption < 0.5 VA per phase

Auxiliary power supply:

Voltage 230 V single phase (+/- 10%)

Frequency 50 Hz (47 to 63 Hz)

Consumption < 6 VA - 3.5 W

Output:

Energy pulse: duration > 100 ms

Via volt free contact

Connection

3 or 4-wire connection - 3 CT

Some items sold separately

For pack quantity, please refer to numerical index pages

For trade price, please see your local HPM Legrand representative for the current price list