

> Timers

> Electromechanical timer



MIN

Adjustable time delay from 1 to 7 min.

> Silent electronic timers



MINs

Adjustable time delay from 0.5 to 20 min.



MINp

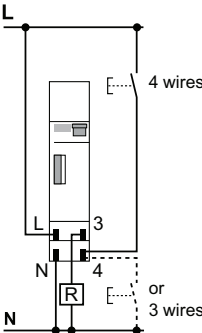
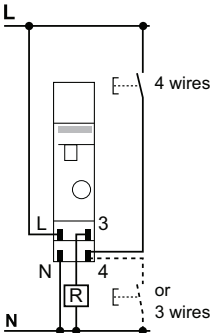
Adjustable time delay from 0.5 to 20 min. with switch-off warning.

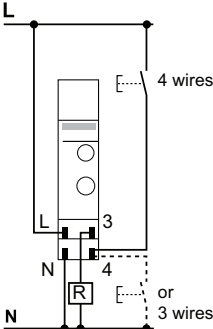
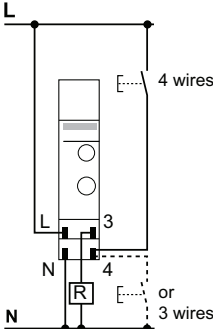


MINt

Adjustable time delay from 0.5 to 20 min. with switch-off warning and impulse relay function.

Selection table

Type	MIN	MINs
	Electromechanical timer	Silent electronic timer
	P111648 	P111642 
Function	These timers allow closing and then opening of a contact in a determined time Control circuit: connected standard or luminous push-buttons. Timer inoperative via self-protection if consumption above 50 mA maximum	
Wiring diagrams	P108667 	P108669 
Mounting	Two operating modes triggered by switch on front face: ■ Automatic mode: □ operation in timing mode □ time delay adjustable from 1 to 7 min. □ setting in steps of 15 s using knob □ pressing a push-button renews the time delay ■ Manual override mode: constant lighting	Two operating modes triggered by switch on front face: ■ Timer mode: time delay adjustable from 0.5 to 20 min. ■ Permanent mode: constant lighting
Catalogue numbers	15363	CCT15232
Technical specifications		
Voltage rating (Ue) (+10 %, -15 %)	230 V AC, 50 Hz	230 V AC, 50/60 Hz
Consumption	1 VA	< 6 VA
Output contact current Cos φ = 1	16 A	16 A
Degree of protection	IP20B	IP20B
Operating temperature	-10°C to +50°C	-10°C to +50°C
Width (9 mm modules)	2	2
Consumption of connected luminous push-buttons	50 mA maxi	150 mA maxi
Adjustable time delay	1 to 7 min.	0.5 to 20 min.
Long time delay	–	–
Insulation class	–	Class II
1 screw connection per pole for cables up to 6 mm ²	■	■
Selection of the type of connection (3 or 4 wires)	Selector switch	Automatic
Mechanical compatibility with electrical distribution comb busbar	–	■
Switch-off warning function	–	–
Impulse relay function	–	–

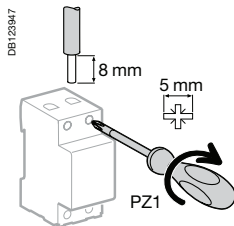
MINp	MINt	Accessory
Silent electronic timer		Wall mount accessory
		
The MINp timer allows closing and then opening of a contact in a determined time, and it also provides warning that the lighting is about to be switched off by flickering of the lamplight (switch-off warning)	The MINt timer is the same as MINp with an "impulse relay" additional function	The MIN timers can be mounted on a wall by using 15359 reference. The protection cover is sealable.
		The 15359 accessory can be also used to mount others 18 mm DIN rail devices (for example: time switches, circuit breakers...).
■ Time delay adjustable from 0.5 to 20 min. ■ Three operating modes triggered by switch on front face: □ timer mode with "switch-off warning" function built into the device. The lamp blinks 40 and 30 s before the end of the time delay □ timer mode without "switch-off warning" function □ permanent mode : constant lighting ■ Timer mode operation: □ pressing a push-button for longer than 2 s: lighting will last for 1 h. Pressing again a push-button for less than 2 s relaunch the time delay of 1 h and pressing again a push-button for more than 2 s switches off the light □ pressing a push-button for less than 2 s launch the pre-set time delay, pressing again a push-button for less than 2 s relaunch the pre-set time delay		
CCT15233	CCT15234	15359
230 V AC, 50/60 Hz	230 V AC, 50/60 Hz	
< 6 VA	< 6 VA	
16 A	16 A	
IP20B	IP20B	
-25°C to +50°C	-25°C to +50°C	
2	2	See § dimensions
150 mA maxi	150 mA maxi	
0.5 to 20 min.	0.5 to 20 min.	
1 h	1 h	
Class II	Class II	
■	■	
Automatic	Automatic	
■	■	
■	■	
-	■	

Load table

Products	MIN	MINs	MINp, MINt
Type of lighting	Maximum power		
230 V incandescent and halogen lamps	2300 W	2300 W	3600 W
Non-corrected / serial-corrected / dual mounted fluorescent tubes with conventional ballast	2300 VA	2300 VA	3600 VA ⁽¹⁾
Fluocompact lamps with conventional ballast	2000 VA	1500 VA	1500 VA ⁽¹⁾
Parallel-corrected fluorescent tubes with conventional ballast	1300 VA (70 F)	400 VA (42 µF)	1200 VA (120 µF) ⁽¹⁾
Fluorescent tubes with electronic ballast	300 VA	300 VA	1000 VA
Fluocompact lamps with electronic ballast	9 x 7 W, 6 x 11 W, 5 x 15 W, 5 x 20 W	9 x 7 W, 7 x 11 W, 7 x 15 W, 7 x 20 W, 7 x 23 W	34 x 7 W, 27 x 11 W, 24 x 15 W, 22 x 23 W

⁽¹⁾ The "switch-off warning" function is not available for these types of loads.

Connection

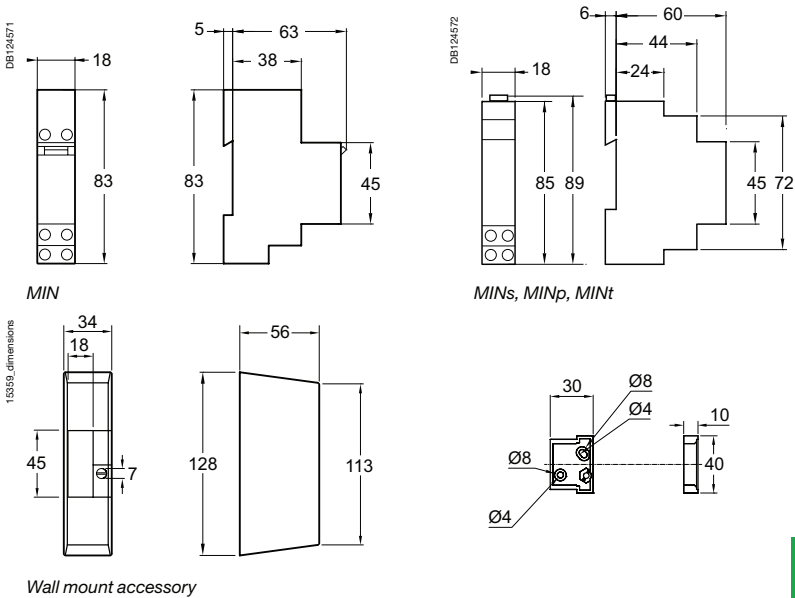


Type	Tightening torque	Copper cables	
		Rigid	Flexible or with ferrule
MIN, MINs, MINp, MINt	1.2 N.m		
		≤ 6 mm ²	≤ 6 mm ²

Weight (g)

Time switches	
MIN	84
MINs	75
MINp	103
MINt	76

Dimensions (mm)





Time switches

> The 45 mm digital time switches

**IHP 1c****IHP 2c****IHP+1c****IHP+2c**

Automatically switch On and Off loads according to the program entered by the user with 4 keys and a display, they operate on a weekly cycle: the same program is repeated week after week.

> The 18 mm digital time switches

**IHP 1c/+ 1c**

Automatically switch On and Off loads according to the program entered by the user with 4 keys and a display, they operate on a weekly cycle: the same program is repeated week after week.

> The 54 mm mechanical time switches








IH 60mn 1c SRM **IH 24h 1c SRM/ARM** **IH 24h 2c ARM**

IH 24h + 7j 1c ARM **IH 7j 1c ARM**

Automatically switch On and Off loads according to the program entered by the user they operate on an hourly, daily or weekly cycle: the same program is repeated hour after hour (IH 60mn), day after day (IH 24h) or week after week (IH 7j).

> The 18 mm mechanical time switches




IH 24h 1c SRM/ARM **IHH 7j 1c ARM**

Automatically switch On and Off loads according to the program entered by the user they operate daily on a weekly cycle.

> The digital yearly time switches




ITA 1C **ITA 4C**

They operate on an daily, weekly or yearly program (ITA 1c: 1 channel, ITA 4c: 1, 2, 3 or 4 channels - 2 external inputs).

Selection table

The time switches control opening and closing of one or more separate circuits according to a programming pre-set by the user:

- by memorisation of On and Off switching operations for the IHP and ITA digital time switches
- by positioning of jumpers or captive segments on a programming dial for the IH mechanical time switches.

An IHP, IH or ITA time switch is chosen according to the following criteria:

Designation	Number of channels	Cycle period (d: day)	Minimum time between 2 switching operations	Number of switching operations	Saving on mains cut off	Width (modules of 9 mm)	Override controls On / Off	Output contact changeover switch (cos φ =1)	Time changeover (summer / winter)
The 45 mm digital time switches									
IHP 1c	1	24 h and/or 7 d	1 min.	56	6 years	5	On / Off	16 A	Auto
IHP + 1c	1	24 h and/or 7 d	1 s	84	6 years	5	On / Off	16 A	Auto
IHP 2c	2	24 h and/or 7 d	1 min.	56	6 years	5	On / Off	16 A	Auto
IHP + 2c	2	24 h and/or 7 d	1 s	84	6 years	5	On / Off	16 A	Auto
The 18 mm digital time switches									
IHP 1c 18 mm	1	24 h and/or 7 d	1 min.	56	10 years	2	On / Off	16 A	Auto
IHP + 1c 18 mm	1	24 h and/or 7 d	1 min.	84	10 years	2	On / Off	16 A	Auto
The 36 or 72 mm digital yearly time switches									
ITA 1c	1	24 h, 7 d, year	1 min.	300	10 years	4	On/Off	16 A	Manual / Auto
ITA 4c	4	24 h, 7 d, year	1 min.	300	10 years	8	On/Off	10 A	Manual / Auto
The 54 mm mechanical time switches									
IH 60mn 1c SRM	1	60 min.	37.5 s	48 On - 48 Off	none	6	On / Off	10 A	Manual
IH 24h 1c SRM	1	24 h	15 min.	48 On - 48 Off	none	6	On / Off	16 A	Manual
IH 24h 1c ARM	1	24 h	15 min.	48 On - 48 Off	200 h ⁽¹⁾	6	On / Off	16 A	Manual
IH 24h 2c ARM	2	24 h	30 min.	24 On - 24 Off	150 h	6	On	16 A	Manual
IH 7j 1c ARM	1	7 days	2 h	42 On - 42 Off	200 h ⁽¹⁾	6	On / Off	16 A	Manual
IH 24h + 7j 1+1c ARM	1+1	24 h + 7 days	45 min. + 12 h	16 On - 16 Off + 7 On - 7 Off	150 h	6	On	16 A	Manual
The 18 mm mechanical time switches									
IHH 7j 1c ARM	1	7 days	2 h	42 On - 42 Off	100 h	2	On / Off	16 A	Manual
IH 24h 1c ARM	1	24 h	15 min.	48 On - 48 Off	100 h	2	On / Off	16 A	Manual
IH 24h 1c SRM	1	24 h	15 min.	48 On - 48 Off	none	2	On / Off	16 A	Manual

⁽¹⁾ 10 h for 100 V CA supply voltage.

	Back-lit display, random function and pulse programming	"Absence for holidays" function	Screwless connection	Mechanical compatibility with electrical distribution comb busbars	Input for external control	Instruction manual holder on front face	Memory key supplied with the product	Cat. no.
		■	■	■		■		CCT15720 ⁽⁴⁾
	■	■	■	■	1 input	■	■	CCT15721 ⁽⁴⁾
		■	■	■		■		CCT15722 ⁽⁴⁾
	■	■	■	■	2 inputs	■	■	CCT15723 ⁽⁴⁾
		■	■				⁽⁵⁾	CCT15854 ⁽⁴⁾
	■ + Cycle programming	■	■		1 input		■	CCT15838 ⁽⁴⁾
	Back-lit display, pulse and cycle programming	■ ⁽³⁾					⁽⁶⁾	CCT15910
	Back-lit display, pulse and cycle programming	■ ⁽³⁾			2 inputs		⁽⁶⁾	CCT15940
			■					CCT15338
			■					CCT16364
			■					CCT15365
								15337
			■					CCT15367
								15366
								15331
								15336
								15335

⁽²⁾ French, English, Italian, Spanish, German, Portuguese languages.

⁽³⁾ Function included and can be realized through special program entry.

⁽⁴⁾ French, English, Italian, Spanish, German, Portuguese, Dutch languages.

⁽⁵⁾ Memory key (CCT15861) is not supplied with IHP 1c 18mm (CCT15854) but this memory key and the programming kit (CCT15860) can be used and operate on IHP 1c 18mm (see "Accessories selection table").

⁽⁶⁾ Memory key (CCT15955) is not supplied with ITA 1c/4c but this memory key and the programming kit (CCT15950) can be used and operate on ITA 1c/4c (see "Accessories selection table").

Selection table

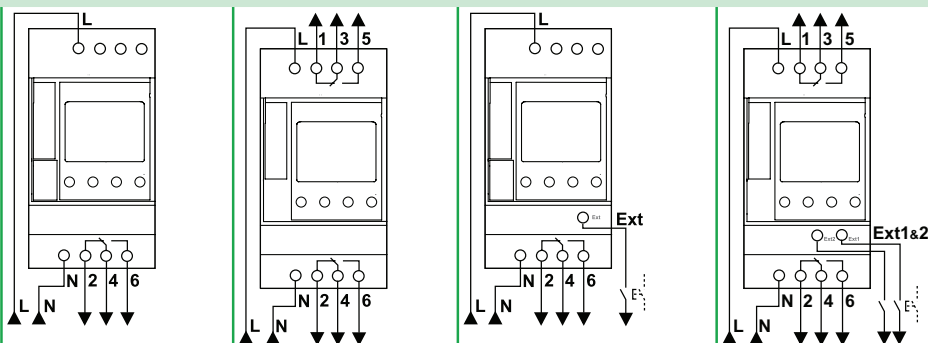
Programmable time switches

	IHP 1c	IHP2c	IHP+1c	IHP+2c			
P140626		P140627		P11624		P11626	

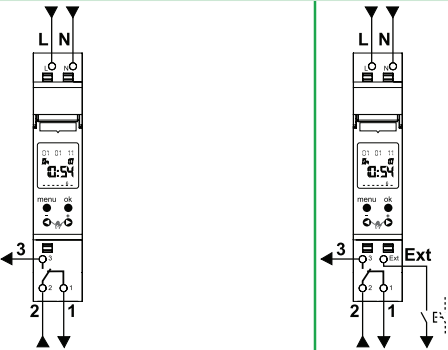
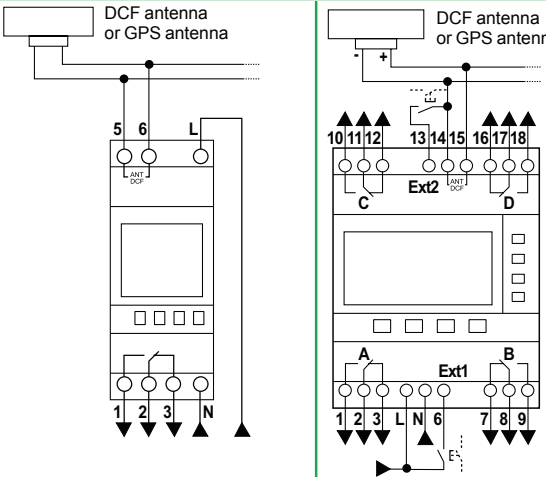
Function

- These time switches automatically switch on and off loads according to the program entered by the user
 - They operate on weekly cycle: the same program is repeated week after week
 - They offer automatic summer/winter time change and allow to adjust it according to where you are located
 - The program can be overridden temporary or permanently by pressing 2 keys on the product
 - They also offer holidays program, by configuring the starting and ending dates of the absence.
- A memory key and a programming kit can be used to duplicate on another IHP+ or to save the program created by the contractor (see "Accessories selection table")
 - Override control with switch or push-button via external input (1 external input for IHP+1c and 2 externals inputs for IHP+ 2c)

Wiring diagrams



Catalogue numbers		CCT15720	CCT15722	CCT15721	CCT15723
Technical specifications					
Voltage rating (Ue)		230 V AC, $\pm 10\%$, 50/60 Hz	230 V AC, $\pm 10\%$, 50/60 Hz	230 V AC, $\pm 10\%$, 50/60 Hz	230 V AC, $\pm 10\%$, 50/60 Hz
Consumption		4 VA	7 VA	4 VA	7 VA
Output contact current (250 V AC)	$\cos \varphi = 1$	16 A	16 A	16 A	16 A
	$\cos \varphi = 0.6$	10 A	10 A	10 A	10 A
Degree of protection		IP20B	IP20B	IP20B	IP20B
Operating temperature		-10°C to +50°C	-10°C to +50°C	-10°C to +50°C	-10°C to +50°C
Time accuracy		± 1 s per day at 20°C	± 1 s per day at 20°C	± 1 s per day at 20°C	± 1 s per day at 20°C
Program saving and time by lithium battery	Lifetime	6 years	6 years	6 years	6 years
	Back-up time, cumulated mains cut off	6 years	6 years	6 years	6 years

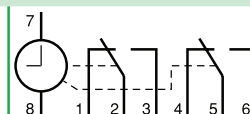
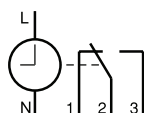
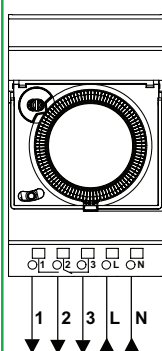
Yearly programmable time switches			
IHP 1c 18 mm	IHP+1c 18 mm	ITA 1c	ITA 4c
			
■ A memory key and a programming kit can be used to duplicate on another IHP or to save the program created by the contractor (see "Accessories selection table")		■ Weekly or yearly time programming to be distributed over 1 channel ■ Weekly or yearly time programming to be distributed over 1, 2, 3 or 4 channels ■ Override control with switch or push-button via external inputs	
			
CCT15854	CCT15838	CCT15910	CCT15940
230 V AC, +10 %, -15 %, 50/60 Hz	230 V AC, +10 %, -15 %, 50/60 Hz	230 V AC, 50/60 Hz	230 V AC, 50/60 Hz
2.3 VA	2.3 VA	1.4 - 1.9 W (depending on the switching status)	1.2 - 3.2 W (depending on the switching status)
16 A	16 A	16 A	10 A
4 A	4 A	6 A	6 A
IP20B	IP20B	IP20	IP20
-25°C to +55°C	-25°C to +55°C	-30 °C to +55 °C	-30 °C to +55 °C
± 0.5 s per day at 25°C	± 0.5 s per day at 25°C	Without antenna: ± 0.5 s per day at 20 °C With antenna: 1 s on 1 million years	Without antenna: ± 0.5 s per day at 20 °C With antenna: 1 s on 1 million years
10 years	10 years	10 years	10 years
10 years	10 years	10 years	10 years

Selection table Mechanical time switches

	IH 60mn 1c SRM	IH 24h 1c SRM	IH 24h 1c ARM	IH 24h 2c ARM			
P116860		P116861		P116862		P116816	

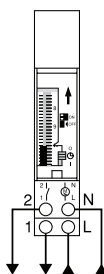
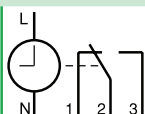
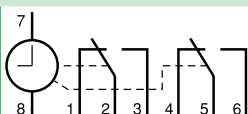
Function

- They operate on hourly, daily or weekly cycle: the same program is repeated hour after hour (IH 60mn), day after day (IH 24h) or week after week (IH 7j, (IHH 7j))
- The program can be overridden On

Wiring diagrams

Catalogue numbers		CCT15338	CCT16364	CCT15365	15337
Technical specifications					
Voltage rating (Ue)		230 V AC +10 %, -15%, 50 Hz	230 V AC +10 %, -15%, 50/60 Hz	110-230 V AC +10 %, -15%, 50/60 Hz	230 V AC +10 %, -15%, 50/60 Hz
Consumption		1 VA	2.5 VA	2.5 VA	2.5 VA
Output contact current under 250 VAC	Cos φ = 1	10 A	16 A	16 A	16 A
	Cos φ = 0.6	4 A	4 A	4 A	4 A
Degree of protection		IP20B	IP20B	IP20B	IP20B
Operating temperature		-20°C to +55°C	-20°C to +55°C	-20°C to +55°C	-20°C to +55°C
Time accuracy		±1 s per day at 20°C	±1 s per day at 20°C	±1 s per day at 20°C	±1 s per day at 20°C
Saving of program and time by lithium battery	Lifetime	—	—	6 years	6 years
	Back-up time, cumulated mains cut off	—	—	200 h with 230 V AC 100 h with 100 V AC	150 h
Programming by:	Jumpers (supplied)	—	—	—	4 red + 4 green + 2 white
	Captive segments	96	96	96	—

	IH 24h + 7j 1+1c ARM	IH 7j 1c ARM	IH24h 1c SRM 18 mm	IH 24h 1c ARM 18 mm	IHH 7j 1c ARM 18 mm
P11610		P11683 	P11614 	P11615 	P11613 



	15366	CCT15367	15335	15336	15331
	230 V AC +10 %, -15%, 50 Hz	110-230 V AC +10 %, -15%, 50/60 Hz	230 V AC, ±10 %, 50/60 Hz	230 V AC, ±10 %, 50/60 Hz	230 V AC, ±10 %, 50/60 Hz
	2.5 VA	2.5 VA	2.5 VA	2.5 VA	2.5 VA
	16 A	16 A	16 A	16 A	16 A
	4 A	4 A	4 A	4 A	4 A
	IP20B	IP20B	IP20B	IP20B	IP20B
	-20°C to +55°C	-20°C to +55°C	-10°C to +50°C	-10°C to +50°C	-10°C to +50°C
	±1 s per day at 20°C	±1 s per day at 20°C	±1 s per day at 20°C	±1 s per day at 20°C	±1 s per day at 20°C
	6 years	6 years	10 years	10 years	10 years
	150 h	200 h with 230 V AC 100 h with 110 V AC	—	100 h	100 h
	6 yellow (24 h), 12 blue + 2 red (7 days)	—	—	—	—
	—	84	96	96	84

Accessories
selection table

Programming kits for PC

Memory keys

	IHP+	ITA	IHP+	ITA
Function	Consists of a programming device, a memory key, a CDROM and a 2 m USB cable For IHP+ 1c/2c, IHP 1c 18 mm, IHP+ 1c 18 mm	Consists of a programming device, a CDROM and a 1.5 m USB cable For ITA 1c and ITA 4c	Saving and duplicating programs For IHP+ 1c/2c, IHP 1c 18 mm, IHP+ 1c 18 mm	For ITA 1c and ITA 4c
Mounting	–		Located on front face	
Catalogue numbers	CCT15860	CCT15950	CCT15861	CCT15955
Technical specifications				
Degree of protection	–		–	–
Operating temperature	–		–	–

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Specific technical data

IHP+ 1c, IHP+ 2c	
Manual functions	Temporary cancellation of programming for holidays, public holidays, etc. by configuration of the 2 dates - start and end of absence Simulation of presence thanks to random operation during On periods
Pulse functions	Programming of pulses adjustable from 1 to 59 s (pulse takes priority over switching)
Back-lighting of the screen	
External input (only for IHP+ 1c, IHP+ 2c)	
External inputs for external control with a standard switch or a push-button	1 input for IHP+ 1c 2 inputs for IHP+ 2c
Voltage rating (Ue)	230 V AC, +10 %, -15 %
Frequency	50/60 Hz
Input current	≤ 1.2 mA
Consumption	≤ 0.3 mW
Cable length	≤ 100 m

Antenna		Additional jumpers	
GPS antenna for ITA		IH jumpers	
			
Antenna for ITA 1c and ITA 4c		They are used to program a larger number of sequences for: ■ IH 24h 2c ARM (15337) ■ IH 24h + 7j 1+1c ARM (15366)	
■ 10 ITA maximum per antenna, maximum distance between the ITA and the antenna: 200 m ■ Outside the electrical switchboard, outdoors, under shelter		1 bag containing: ■ 5 red ■ 5 green ■ 5 white ■ 5 yellow	
CCT15970 ⁽¹⁾		15341	
IP54		—	
-30 °C to +55 °C		—	

⁽¹⁾ external 12-30 V DC power supply needed

ITA 1c, ITA 4c	
Switching functions	On, Off, pulse, cycle, yearly program
Pulse lenght pulse function (switching time)	1 s to 59 min 59s
Pulse lenght timer (manual switching)	1 s to 9 h 59 min 59 s
Pulse/pause length cycle	1 s to 9 h 59 min 59 s
Minimum interval	1 min
External inputs (only for ITA 4c)	
External inputs for external control with a standard switch or a push-button	2 inputs : ■ Ext1 input: supplied with 230 V AC, ±10%- 50/60 Hz ■ Ext2 input Ext2: potential free
Antennas	
Power supply	GPS- ITA External 12 - 30 VDC
Output	DCF time telegraph (no weather data)
Receiver	—
Operation indicator	Flashing LED on receiving

Programming principle

- For the digital time switches, this consists of memorising the days and times of the required switching operations.
- For the mechanical time switches, this is performed by positioning captive segments or jumpers on a switching dial.

Example

- Controlling an air conditioner in a hairdressing salon:

	Monday ⁽¹⁾	Tuesday	Wednesday	Thursday ⁽²⁾	Etc.	
On n° 1		08 h 30	08 h 30	08 h 30		Switch on
Off n° 1		12 h 00	12 h 00			Switch off
On n° 2		13 h 30	13 h 30			Switch on
Off n° 2		20 h 00	20 h 00	20 h 00		Switch off

⁽¹⁾ Closed on Mondays

⁽²⁾ Non-stop

Programming by copying or blocks

Whenever identical switching operations are found at the same times, several days in the week, this function lets you program these operations once only. In this case a single switching operation is used. If this function is used wisely, the number of possible switching operations can be greatly increased.

Example

	Monday	Tuesday	Wednesday	Thursday	Friday	
On n°1	10 h 00			10 h 00		Switch on
Off n°1		18 h 00	18 h 00		18 h 00	Switch off

Number of switching operations

Designation	Number of switching operations
IHP 1c	56
IHP + 1c	84
IHP 2c	56
IHP + 2c	84
IHP 1c 18 mm	56
IHP + 1c 18 mm	84
ITA 1c, ITA 4c	300
IH 24h 1c ARM	48 On - 48 Off
IH 24h 1c SRM	48 On - 48 Off
IH 60mn 1c SRM	48 On - 48 Off
IH 24h 1c SRM	48 On - 48 Off
IH 24h 1c ARM	48 On - 48 Off
IH 24h 2c ARM	24 On - 24 Off
IH 7j 1c ARM	42 On - 42 Off
IH 24 h + 7j 1+1c ARM	16 On - 16 Off + 7 On - 7 Off

Saving on mains cut off

For digital switches equipped with this function, a lithium battery is used for saving. The program, date and time are preserved. Switching operations are not performed.

Lets you control starting and stopping of a group of loads according to a cycle that is repeated every 60 minutes.

Lets you control starting and stopping of one or two groups of loads according to a daily cycle that is repeated, in identical manner, every day of the week.

Lets you control starting and stopping of one to 4 groups of loads according to a weekly cycle, that can be different each day, repeated each week.

60 min. time programming

Example

Controlling automatic watering	
On n° 1	2 min. 30 s
Off n° 1	5 min.
On n° 2	25 min.
Off n° 2	37 min. 30 s

Relevant time switches

IH 60mn 1c SRM.

24 h daily programming

Example

- Controlling a door of a block of flats:
 - from 8 am to 7.30 pm: contact on "On", free access,
 - from 7.30 pm to 8 am the next day: contact on "Off", access by confidential code every day of the week:

From Monday to Sunday	
On n° 1	8 am
Off n° 1	7.30 pm

Relevant time switches

- IH 24h 1c SRM/ARM.
- IH 24h 2c ARM.
- IHP 1c 18 mm.
- IHP + 1c 18 mm.
- IHP 1c, IHP + 1c.
- IHP 2c, IHP + 2c.
- ITA 1c, ITA 4c.

7 days weekly programming

Example

- Controlling an air conditioner in a hairdressing salon:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
On n° 1		09 h 00	09 h 00	09 h 00		
Off n° 1		12 h 00	12 h 00			
On n° 2		14 h 00	14 h 00			
Off n° 2		20 h 00	20 h 00	20 h 00		
On n° 3					8 h 30	8 h 30
Off n° 3					12 h 30	12 h 30
On n° 4					14 h 30	14 h 30
Off n° 4					21 h 00	21 h 00

Relevant time switches

- IH 7j 1c ARM.
- IHP 1c, IHP + 1c.
- IHP 2c, IHP + 2c.
- IHP 1c 18 mm.
- IHP + 1c 18 mm.
- ITA 1c, ITA 4c.

Lets you control by pulses (adjustable from 1 to 59 s) one to four groups of loads (pulse relays, bells, etc.).

Pulse programming

Example

- Automatic controlling of bells, lighting and distribution of food: bells sounding the resumption and finish of work (channel 1), lighting of premises (channel 2), feeding fish in the aquarium (channel 3):

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Channel 1: bell (20 s pulse order)							
On	08 h 00	08 h 00	08 h 00	08 h 00	07 h 00	09 h 00	–
Duration	20 s	20 s	20 s	20 s	20 s	20 s	–
On	12 h 00	12 h 00	12 h 00	12 h 00	11 h 00	13 h 00	–
Duration	20 s	20 s	20 s	20 s	20 s	20 s	–
On	14 h 00	14 h 00	14 h 00	14 h 00	13 h 00	–	–
Duration	20 s	20 s	20 s	20 s	20 s	–	–
On	18 h 00	18 h 00	18 h 00	18 h 00	16 h 00	–	–
Duration	20 s	20 s	20 s	20 s	20 s	–	–
Channel 2: lighting (latched order)							
On	07 h 30	07 h 30	07 h 30	07 h 30	06 h 30	08 h 30	–
Off	18 h 30	18 h 30	18 h 30	18 h 30	17 h 00	13 h 30	–
Channel 3: aquarium (15 s pulse order)							
On	10 h 00	–	10 h 00	–	10 h 00	–	10 h 00
Duration	15 s	–	15 s	–	15 s	–	15 s

Programming

- Programming of a pulse takes up 2 memory spaces.
- Combination of the two order types (pulse and latched) is possible on the same channel.

Relevant time switches

- IHP + 1c.
- IHP + 1c 18 mm.
- IHP + 2c.
- ITA 1c, ITA 4c.

Programming special days.

Example

- Controlling lighting and heating in a school:
- basic programming: program lighting (channel 1) and heating (channel 2):

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Channel 1: lighting							
On	07 h 00	07 h 00	07 h 00	07 h 00	07 h 00	–	–
Off	20 h 00	20 h 00	16 h 00	20 h 00	16 h 00	–	–
Channel 2: heating							
On	06 h 00	06 h 00	06 h 00	06 h 00	06 h 00	–	–
Off	18 h 00	18 h 00	12 h 00	18 h 00	12 h 00	–	–

- dated programming: periods of non-operation, school holidays, etc.
- Just memorise an Off at the start and another Off at the end of each period of absence:

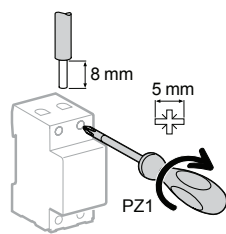
		Holidays				
		Winter	Spring	Summer	Autumn	End of year
Channel 1: lighting						
Off	Date	20 feb.	17-apr	07-july	23 oct.	18 dec.
	Time	12 h 00	17 h 00	12 h 00	17 h 00	12 h 00
Off	Date	08-march	03-may	9 sept.	2 nov.	4 jan.
	Time	01 h 00	01 h 00	01 h 00	01 h 00	01 h 00
Channel 2: heating						
Off	Date	20 feb.	17-apr		23 oct.	18 dec.
	Time	12 h 00	17 h 00		17 h 00	12 h 00
Off	Date	08-march	03-may		2 nov.	4 jan.
	Time	01 h 00	01 h 00		01 h 00	01 h 00

Relevant time switches

- ITA 1c, ITA 4c.

Lets you create special programs for dated days.

Connection



Type		Tightening torque	Copper cables	
			Rigid	Flexible or with ferrule
IHP	1c, 2c, +1c, +2c	2 screwless / pole	2 x 2.5 mm ²	2 x 2.5 mm ²
IHP 18 mm	1c, +1c	2 screwless / pole	2 x 2.5 mm ²	2 x 2.5 mm ²
IH	60mn 1c SRM	2 screwless / pole	2 x 2.5 mm ²	2 x 2.5 mm ²
	24h 1c SRM, ARM	2 screwless / pole	2 x 2.5 mm ²	2 x 2.5 mm ²
	24h 2c ARM	1.2 N.m	≤ 6 mm ²	≤ 6 mm ²
	7j 1c ARM	2 screwless / pole	2 x 2.5 mm ²	2 x 2.5 mm ²
	24h + 7j 1+1c ARM	1.2 N.m	≤ 6 mm ²	≤ 6 mm ²
IH 18 mm	24h 1c SRM/ ARM	1.2 N.m	≤ 6 mm ²	≤ 6 mm ²
IHH 18 mm	7j 1c ARM	1.2 N.m	≤ 6 mm ²	≤ 6 mm ²
ITA 1c, ITA 4c		1.2 N.m	≤ 6 mm ²	≤ 6 mm ²

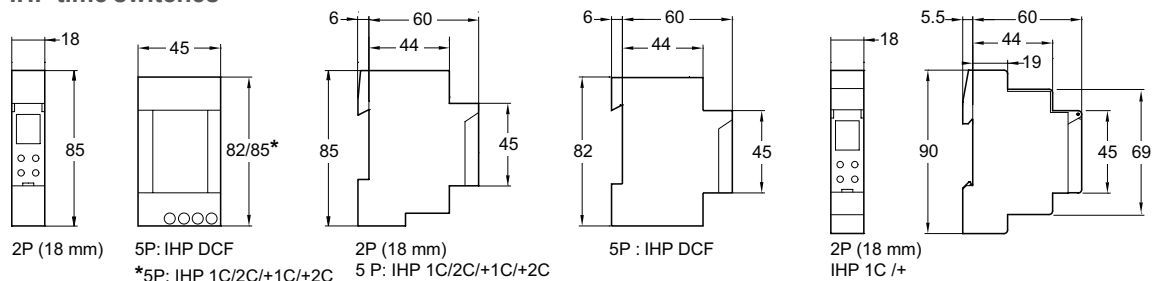
IHP 1c/2c, IHP+ 1c/2c are mechanical compatible with electrical distribution comb busbar.

Weight (g)

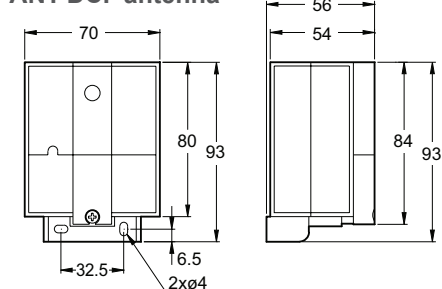
Time switches		
IHP	1c / 2c	170/ 205
IHP+	1c / 2c	190/ 211
IHP 18 mm	1c / +1c	90
IHP DCF		244
IH 54 mm	60mn 1c SRM	208
	24h 1c SRM/ARM	212 / 119
	24h 2c ARM	216
	7j 1c ARM	119
	24h + 7j 1+1c ARM	223
IH 18 mm	24h 1c SRM / ARM	97
IHH 18 mm	7j 1c ARM	101
ITA 1c		152
ITA 4c		303

Dimensions (mm)

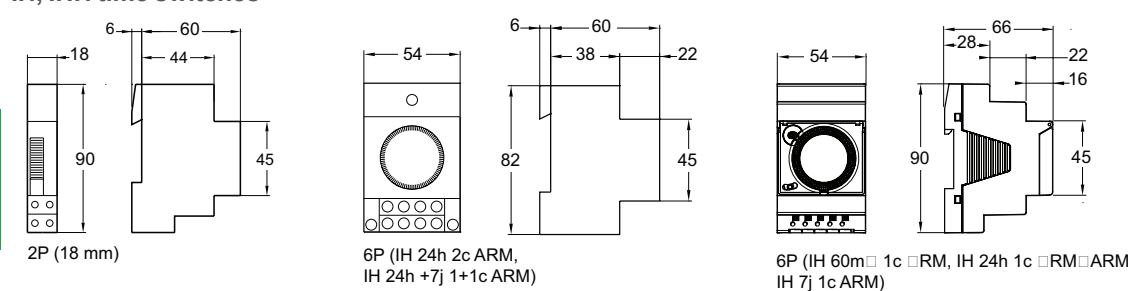
IHP time switches



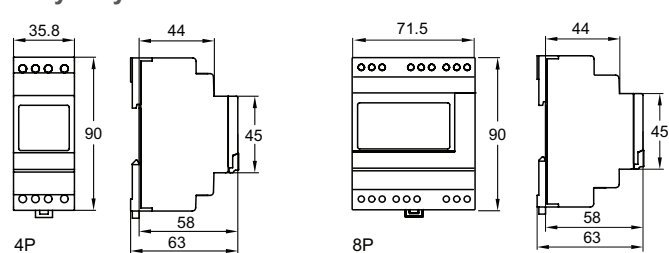
ANT DCF antenna



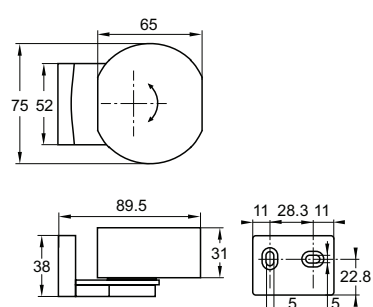
IH, IHH time switches



ITA yearly time switches



DCF antenna and GPS antenna for ITA



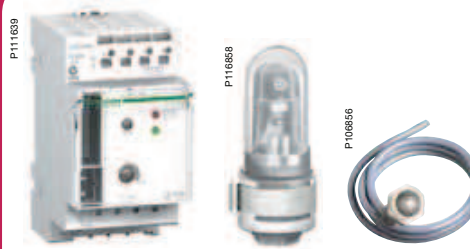


Twilight switches



IC100

Adjustable from 2 to 100 lux.
It comes with a wall-mounted cell.



IC2000

Adjustable from 2 to 2000 lux. It comes with a standard wall-mounted or switchboard cell.



IC2000P+

It has 3 customisable pre-set programs and 3 setting ranges from 2 to 2100 lux. Its 4 keys and large screen facilitate its programming. It comes with a wall-mounted cell.



IC Astro

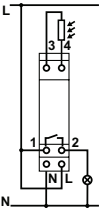
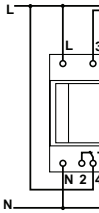
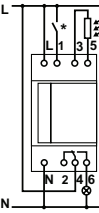
It operates without photoelectric cell and calculates sunrise and sunset times according to its geographic position. It can be customised by using its programming function.



IC 100k

Adjustable from 2 to 99000 lux.
Its 4 keys and large screen facilitate its programming. It comes with a digital wall-mounted or a switchboard cell.

Selection table

	IC100	IC2000	IC2000P+	
				
Function	The IC100 controls closing of a contact when brightness decreases and drops below the selected threshold. It controls opening of a contact when brightness increases and rises above the selected threshold	The IC2000 control closing of a contact when brightness decreases and drops below the selected threshold. They control opening of a contact when brightness increases and rises above the selected threshold	The IC2000P+ controls lighting according to brightness and time. If brightness drops below the set threshold (twilight function: IC) and if the time program allows relay closing (time switch function), then the lighting circuit is activated	
Wiring diagrams				
Catalogue numbers	15482	CCT15284	CCT15368	15483 ⁽¹⁾
Technical specifications				
Delivered with	Wall-mounted cell	Switchboard cell (CCT15281)	Wall-mounted cell (CCT15268)	Wall-mounted cell
Optional accessories	Wall-mounted cell (CCT15268)	Switchboard cell (CCT15281) Wall-mounted cell (CCT15268)	Wall-mounted cell (CCT15268) Switchboard cell (CCT15281)	Wall-mounted cell (CCT15268)
Adjustable brightness threshold	2 to 100 lx	2 to 2000 lx	Range 1: 2 to 50 lx Range 2: 60 to 300 lx Range 3: 350 to 2100 lx	
Voltage rating (Ue) (+10 %, -15 %)	230 V AC, 50/60 Hz	230 V AC, 50/60 Hz	230 V AC, 50/60 Hz	
Consumption	6 VA	6 VA	3 VA	
Operating temperature	-20°C to +50°C	-25°C to +50°C	-20°C to +50°C	
Width (9 mm modules)	2	5	5	
Insulation class	Class II	Class II	Class II	
Degree of protection	IP20B	IP20B	IP20B	
Output contact rating cos φ = 1 (under 250 VAC)	16 A	16 A	16 A	
cos φ = 0.6	10 A	10 A	10 A	
Time delays (On and Off)	20 s (On) 80 s (Off)	≥ 60 s	Adjustable from 20 to 140 s (80 s by default)	
Operating accuracy	—	—	< ±1 s / day at 20 °C.	
Monitoring indicator light, not time delayed, lit when brightness is less than the threshold	Red	Red	—	
Contact switching indicator light	Green	Green	—	
LCD liquid crystal display	—	—	Back-lit	
Program saving by lithium battery	—	—	■	
Operating reserve	—	—	5-6 years	
Location for instruction manual on front face	—	■	■	
Cabling test function with a push-button on front face	—	■	—	
Number of channels	1	1	1	
Control by brightness detection	■	■	■	
Coupling with weekly programming	—	—	42 switching times Minimum switching: 1 min Switching accuracy: 1 s	
Control by calculation of sunrise/sunset times	—	—	—	

Languages: (1) English, french, spanish, italian, german, portuguese, swedish, dutch, finnish, norwegian/danish. (2) English, french, spanish, portuguese, hungarian, polish romanian,

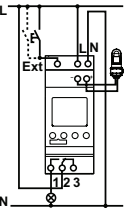
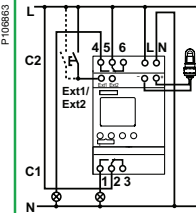
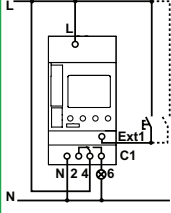
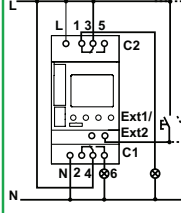
Twilight switches

IC100, 1C2000, IC2000P+, IC100k, abd IC Astro (cont.)

IC100kp+ IC100kp+ 1C		IC100kp+ 2C	IC Astro IC Astro 1C	IC Astro 2C
P116855 + P116858		P116856 + P116858	P116859	P116867

The IC100kp+ 1C/2C control lighting according to brightness and time. If brightness drops below the set threshold (twilight function: IC) and if the time program allows relay closing (time switch function), then the lighting circuit is activated

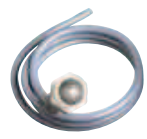
The IC Astro astronomic programmable twilight switch is used to start and stop an electric load (e.g. lighting) according to sunrise and sunset times, without a brightness detector. Sunrise and sunset times are calculated automatically by the IC Astro according to the geographic parameters configured by the user

P108882		P108883		P108880		P108881	
CCT15490 ⁽²⁾ CCT15491 ⁽³⁾		CCT15492 ⁽²⁾ CCT15493 ⁽³⁾		CCT15223 ⁽²⁾ CCT15224 ⁽³⁾		CCT15243 ⁽²⁾ CCT15244 ⁽³⁾	

Digital wall-mounted cell (CCT15260) Memory key (alone) (CCT15861)		Memory key (alone) (CCT15861)	
Digital wall-mounted cell (CCT15260) Digital switchboard cell (CCT15261) Programming kit for PC (CCT15860) Memory key (alone) (CCT15861)		Programming kit for PC (CCT15860) Memory key (alone) (CCT15861)	
1 to 99000 lx		According to sunrise/sunset times	
230 V AC, 50/60 Hz		230 V AC, 50/60 Hz	
3 VA		3 VA	
-30°C to +50°C		-25°C to +45°C	
4		5	
Class II		Class II	
IP20C		IP20B	
16 A		16 A	
10 A		10 A	
Adjustable from 0 to 59.59 min.		Difference in sunset and/or sunrise times adjustable separately by ±120 min.	
-		-	
-		-	
-		-	
Back-lit		Back-lit	
■		■	
10 years		6 years	
-		-	
-		-	
1		1	
■		-	
84 switching times Operating accuracy: < ±1 s / day at 20°C Minimum switching: 1 min Switching accuracy: 1 s		84 switching times (not including sunrise/sunset) Minimum time between 2 switching operations: 1 min. Switching accuracy: 1 s Time accuracy: ±1 s / day	
-		■	

czech, slovak, bulgarian, greek, slovene, serbian, croatian. ⁽³⁾ English, french, italian, german, swedish, dutch, finnish, danish, russian, ukrainian, latvian, lituanien, estonian.

Accessories selection table

	Wall-mounted cell		Switchboard cell	Programming kit for PC	Memory key	Digital wall-mounted cell	Digital switchboard cell	
								
Function	Wall-mounted photoelectric cell		Switchboard photoelectric cell	Consists of a programming device, a memory key, a CDROM and a 2 m USB cable	Saving and duplicating programs	Digital wall-mounted photoelectric cell	Digital wall-mounted photoelectric cell	
Mounting	■ Delivered with its fixing device for IC100 and IC200P+ ■ Replaced by CCT15268 for spare part use ■ Cell connection: by double insulation 2-conductor cable, not to be laid next to mains cables or water ducts, maximum length: 25 m		■ Delivered with its fixing device ■ Cell connection: by double insulation 2-conductor cable, not to be laid next to mains cables or water ducts, maximum length: 100 m	–	–	■ Delivered with its fixing device. ■ Cell connection: □ by double insulation 2-conductor cable: - 0.5 - 2.5 mm² for CCT15260 - 0.25 - 1.5 mm² for CCT15261 □ Not to be laid next to mains cables or water ducts, maximum length: - 100 m (2 x 1.5 mm²) - 50 m (2 x 0.75 mm²)		
Catalogue no.	–		CCT15268	15281	CCT15860	CCT15861	CCT15260	CCT15261

Technical specifications

	IP54	IP65	IP54	–	–	IP55	IP66
Degree of protection	IK05	–	IK05	–	–	–	–
Operating temperature	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	–	–	-40°C to +70°C	-40°C to +70°C
Horizontally orientable	–	–	90°	–	–	90°	90°

Load table

Type of lighting (230 V AC)	Max. power (for higher power, relay with a contactor)				
	IC100	IC2000	IC2000P+	IC Astro	IC 100k
Incandescent and halogen lamps	2300 W	2300 W	2300 W	2300 W	2600 W
Non-corrected / serial-corrected / dual mounted fluorescent tubes with conventional ballast	2300 VA	2300 VA	26 x 36 W, 20 x 58 W, 10 x 100 W	26 x 36 W, 20 x 58 W, 10 x 100 W	26 x 36 W, 20 x 58 W, 10 x 100 W
Parallel corrected fluorescent tubes with conventional ballast	400 VA	400 VA	10 x 36 W, 6 x 58 W, 2 x 100 W	10 x 36 W, 6 x 58 W, 2 x 100 W	10 x 36 W, 6 x 58 W, 2 x 100 W
Fluorescent tubes with electronic ballast	–	–	9 x 36 W, 6 x 58 W	9 x 36 W, 6 x 58 W	650 VA max.
Dual-mounted fluorescent tubes with electronic ballast	300 VA	300 VA	5 x (2 x 36 W), 3 x (2 x 58 W)	5 x (2 x 36 W), 3 x (2 x 58 W)	–
Fluocompact lamps with electronic ballast	9 x 7 W, 7 x 11 W, 7 x 15 W, 7 x 20 W, 7 x 23 W	9 x 7 W, 7 x 11 W, 7 x 15 W, 7 x 20 W, 7 x 23 W	9 x 7 W, 7 x 11 W, 7 x 15 W, 7 x 20 W	9 x 7 W, 7 x 11 W, 7 x 15 W, 7 x 20 W	22 x 7 W, 18 x 11 W, 16 x 15 W, 16 x 20 W, 14 x 23 W
Fluocompact lamps with conventional ballast	1500 VA	1500 VA	–	–	–
Parallel-corrected mercury and sodium vapour lamps	400 VA	400 VA	250 VA	250 VA	800 VA max. (80uF)
Non-corrected/ serial-corrected mercury and sodium vapour lamps	1000 VA	1000 VA	–	–	–
Motor	–	–	–	–	2300 VA max.

Specific technical data**IC2000P+****External input**

Voltage rating (Ue)	230 V AC, +10 %, -15 %
Frequency	50/60 Hz
Input current	≤ 2.5 mA
Consumption	≤ 0.4 mW
Cable length	≤ 100 m

IC Astro

Programming longitude	-180° (East) to +180° (West) in steps of 1°
Programming latitude	-90° (South) to +90° (North) in steps of 1°
External inputs for external control with a standard switch or a push-button	■ 1 input "Ext1" for IC Astro 1C ■ 2 inputs "Ext1" and "Ext2" for IC Astro 2C □ consumption: < 0.5 mA □ cable length: ≤ 100 m
Programming accessories	■ Programming kit for PC consists of a programming device, a memory key, a CDROM and a 2 m USB cable ■ Memory key for saving and duplicating programs

IC 100k, IC Astro

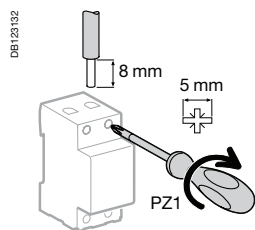
Programming accessories	■ Programming kit for PC consists of a programming device, a memory key, a CDROM and a 2 m USB cable ■ Memory key for saving and duplicating programs
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Memory key delivered on front face for IC100kp+ 1C, IC100kp+ 2C and IC Astro

External inputs

External inputs for external control with a standard switch or a push-button	■ 1 input "Ext" for 1 channel versions ■ 2 inputs "Ext1" and "Ext2" for 2 channels versions
Voltage rating (Ue)	■ 230 V AC, +10 %, -15 % for 1 channel versions ■ 100-240 V AC +10 %, -15 % for 2 channels versions
Frequency	50/60 Hz
Input current	≤ 0.5 mA
Consumption	≤ 130 mW
Cable length	≤ 100 m

Connection



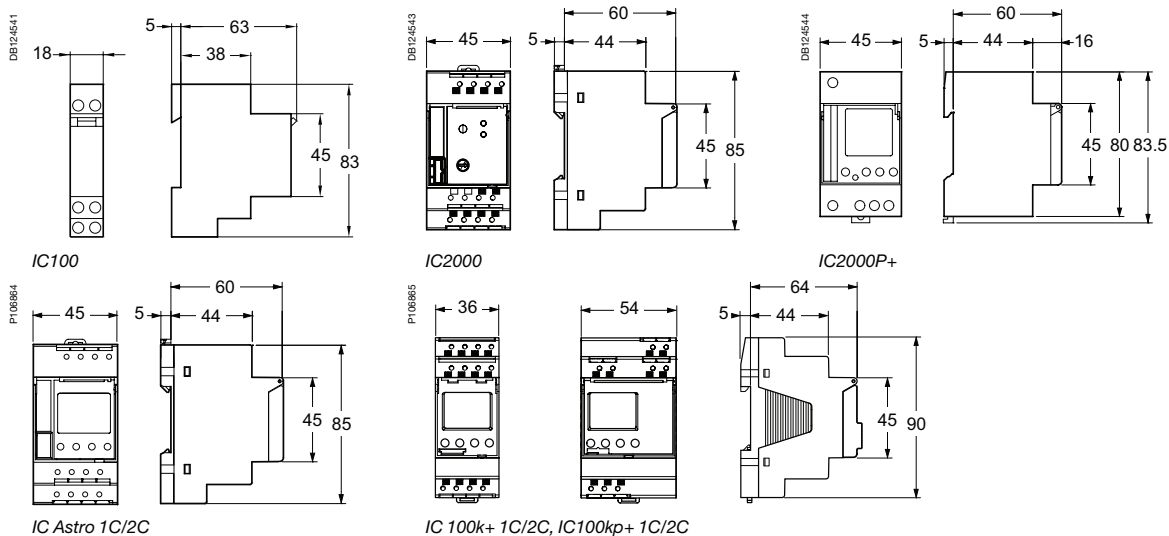
Type	Tightening torque	Copper cables	
		Rigid	Flexible or with ferrule
IC100, IC2000P+	1.2 N.m		
IC2000, IC Astro, IC 100k	2 screwless / pole	2 x 2.5 mm ²	2 x 2.5 mm ²

IC100, IC Astro are mechanical compatible with electrical distribution comb busbar.

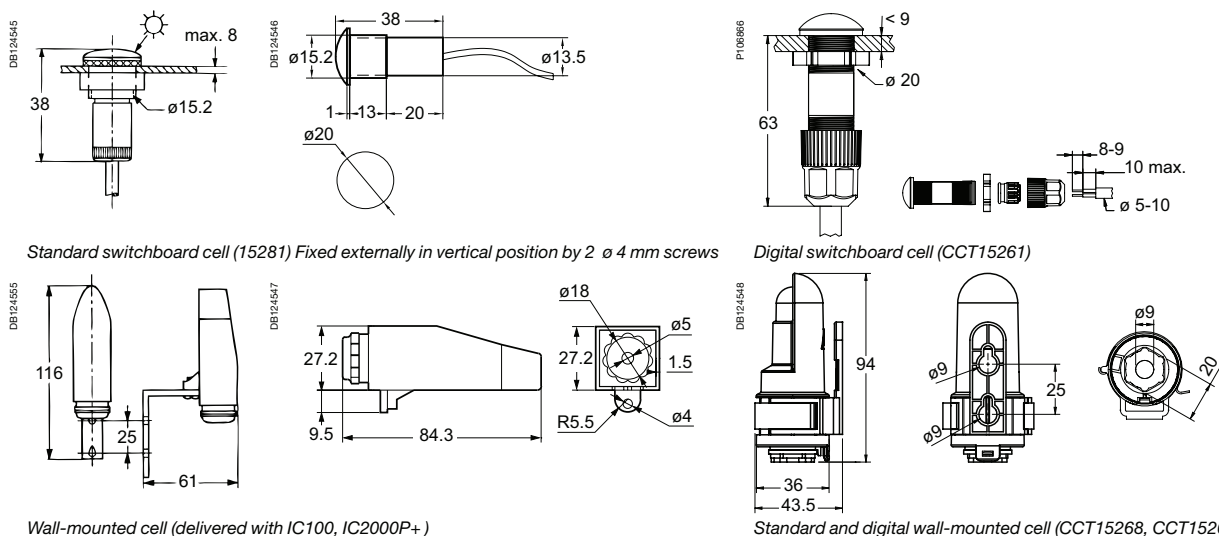
Weight (g)

Twilight switches	
IC100	173
IC2000	280
IC2000P+	323
IC Astro	132
IC 100k+/kp+ 1C / IC 100k+/kp+ 2C	183/ 352

Dimensions (mm)



Cells



Standard switchboard cell (15281) Fixed externally in vertical position by 2 ø 4 mm screws

Digital switchboard cell (CCT15261)



Application

The meters facilitate the real time monitoring of current, voltage and frequency.

Technical data

Supply voltage:	230Vac
Operating frequency:	50 - 60Hz
Display by red LED:	3 digits
Accuracy at full scale:	0.5% ± 1 digital
Consumption:	0.3VA
Connection:	Tunnel terminals for 2.5mm² cables
EMC electromagnetic compatibility:	IEC EN 50081-1 and IEC EN 50082-2
Safety:	IEC EN 61010-1

Specific technical data

AMP 10A

Minimum value measured:	4% of rating
Measurement input consumption:	1VA

AMP Multirange

Ratings:	In direct reading: 5A By CT (not supplied) configurable on the front face of the ammeter: 10, 15, 20, 25, 40, 50, 60, 100, 150, 200, 250, 400, 500, 600, 800, 1000, 1500, 2000, 2500, 4000, 5000A
Minimum value measured:	4% of rating
Measurement input consumption:	0.55VA

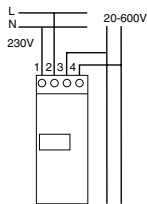
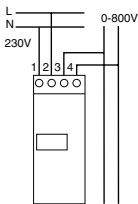
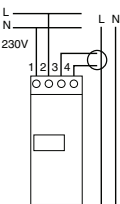
VLT

Direct measurement:	0 - 600Vac
Input impedance:	2 MΩ
Minimum value measured:	4% of rating

FRE

Minimum value measured:	20Hz
Maximum value measured:	100Hz
Full scale display:	99.9Hz

Type	Scale	Connection with CT	Width in 18mm ways	Part number
Amp with direct connection				
	0 - 10A	Direct	2	15202
AMP with multirating				
	0 - 5000A	As per rating	2	15209
VLT				
	0 - 600V	As per rating	2	15201
FRE				
	20 - 100Hz	As per rating	2	15208





iEM2000T



iEM2000



iEM2010



iME1zr.

Function

Digital kilowatt-hour meters designed for sub-metering of active energy (rms) consumed by a single-phase or three-phase electric circuit with or without distributed neutral.

iEM2000T

40 A single-phase kilowatt-hour meter without display, with remote transfer of metering impulses (static output).

iEM2000

40 A single-phase kilowatt-hour meter.

iEM2010

40 A single-phase kilowatt-hour meter with remote transfer of metering impulses (static output).

iME1

Single-phase kilowatt-hour meter.

iME1z

Single-phase kilowatt-hour meter with partial meter.

iME1zr

Single-phase kilowatt-hour meter with partial meter and remote transfer of metering impulses (relay output).

Catalogue numbers

Type	Rating (A)	Voltage (V AC)	Tolerance (V AC)	Width in mod. of 9 mm	Cat. no.
Single-phase circuit (1L + N)					
iEM2000	40	230	±20	2	A9MEM2000
iEM2010	40	230	±20	2	A9MEM2010
iEM2000T	40	230	±20	2	A9MEM2000T
iME1	63	230	±20	4	A9M17065
iME1z	63	230	±20	4	A9M17066
iME1zr	63	230	±20	4	A9M17067

Main technical data

	iEM2000T	iEM2000/iEM2010	iME
Accuracy class	1	1	1
Frequency	48/62 Hz	48/62 Hz	48/62 Hz
Consumption	<10VA	<10VA	2.5 VA
Operating temp	-10°C to +55°C	-10°C to +55°C	-25°C to +55°C
Connection by tunnel terminals	Top terminals: 4 mm ² Bottom terminals: 10 mm ²	Top terminals: 4 mm ² Bottom terminals: 10 mm ²	Top terminals: 6 mm ² Bottom terminals: 16 mm ²
Compliance with standard	IEC 61557-12 : - PMD/DD/K55/1 IEC 62053-21 (accuracy)	IEC 61557-12 : - PMD/DD/K55/1 IEC 62053-21 (accuracy)	IEC 61557-12 : - PMD/DD/K55/1 IEC 62053-21 (accuracy)
Sealable screw shield	Yes	Yes	Yes
MID Compliance	No	Yes	No

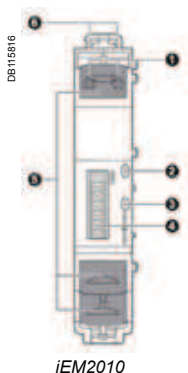
Description

iEM2000, iEM2010, iEM2000T

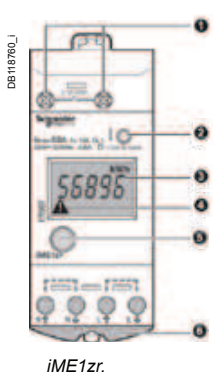
- 1 Remote transfer pulse output (iEM2000T, iEM2010).
- 2 Green power-on indicator light.
- 3 Yellow metering indicator light (flashing).
- 4 Display unit (iEM2000, iEM2010).
- 5 Seal.
- 6 Allow the comb busbar to pass.

iME1, iME1z, iME1zr

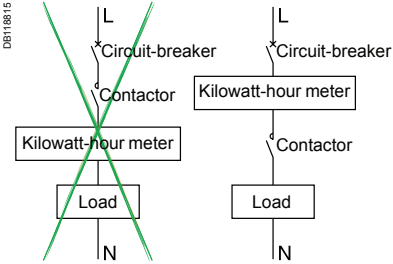
- 1 Pulse output for remote transfer (iME1zr).
- 2 Flashing meter indicator.
- 3 Total or partial meter display (iME1z, iME1zr).
- 4 Wiring error indicator.
- 5 Push-button: total or partial meter display, reset partial meter (ME1z, ME1zr).
- 6 Sealing connection.



iEM2010



iME1zr.



Example: meter on a load switching

Installation

- The front panel of the product is IP40 and its housing is IP20.
- Its installation must be appropriate to the operating conditions.
- The protection must not be less than IP65 for outdoor use.

Use with a contactor

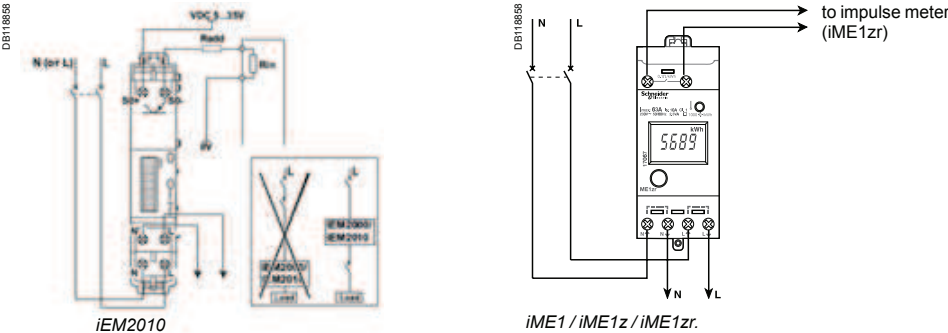
A measurement instrument is normally continually supplied.
For a non-continuous supply (load switching), we recommend that you place the breaking device downstream from the measurement instrument to limit disturbances on the module inputs.
These disturbances, particularly on inductive loads, may result in early ageing of the device.
You must also place the measurement instrument at a distance from the breaking device to limit the risk of disturbance.

Specific technical data

iEM2000, iEM2010, iEM2000T, iME1, iME1z and iME1zr specific technical data						
	iEM2000	iEM2010	iEM2000T	iME1	iME1z	iME1zr
Direct measurement	Up to 40 A			Up to 63 A		
Metering and activity indicator light (yellow)	3,200 flashes per kWh			1,000 flashes per kWh		
Wiring error indicator	Yes					
Total meter (max. capacity) on one phase	999 999.9 kWh			999.99 MWh		
Total meter display	In kWh with 7 significant digits (not for iEM2000T)			In kWh or MWh with 5 significant digits. No decimal point in kWh; 2 digits after the decimal point in MWh		
Partial meter (max. capacity) on one phase with RESET	-			-	99.99 MWh	
Partial meter display	-			-	In kWh or MWh with 4 significant digits. No decimal point in kWh; 2 digits after the decimal point in MWh	
Remote transfer	-	By static output: - ELV insulation voltage: 4 kV, 50 Hz - 20 mA/35 V DC max. - 100 impulses of 120 ms per kWh			-	By NO impulse contact: - ELV insulation voltage: 4 kV, 50 Hz - 18 mA/24 V DC, 100 mA/230 V AC - 1 impulse of 200 ms (contact closing) per kWh

Connection

Single-phase circuit



Caution

- Do not earth the CT secondary (S2).
- You must comply with the routing direction of power cables in the current transformer primary. Cables enter in "P1" and leave in "P2" to the loads.





Energy Meter Series iEM3100



Energy Meter Series iEM3255

The PowerLogic Energy meter Series iEM3000 offers a cost-attractive, competitive range of DIN rail-mounted energy meters ideal for sub-billing and cost allocation applications.

Combined with communication systems, like Smart Link, the iEM3000 series make it easy to integrate electrical distribution measurements into customer's facility management systems. It's the right energy meter at the right price for the right job.

Two versions are available: 63A direct measure (iEM3100) and current transformers associated meter (iEM3200). For each range five versions are available to satisfy from basic to advanced applications:

- iEM3100/iEM3200: kWh meter with partial counter
- iEM3110/iEM3210: kWh meter with partial counter and pulse output. MID certified.
- iEM3115/iEM3215: a multi-tariff meter controlled by digital input or internal clock, MID certified.
- iEM3150/iEM3250: kWh meter with partial counter and current, voltage, power measurement. Modbus communication.
- iEM3155/iEM3255: energy meter, four quadrant, multi-tariffs with partial counter and current, voltage, power measurement. Modbus communication, digital input/output and MID certified.

- Innovative design makes the meters smart and simple:
- Easy to install for panel builders
- Easy to commission for contractors and installers
- Easy to operate for end users

Applications

Cost management applications

- Bill verification
- Sub-billing, including WAGES view
- Cost allocation, including WAGES view

Network management applications

- Basic electrical parameters like current, voltage and power
- Onboard overload alarm to avoid circuit overload and trip
- Easy integration with PLC systems by input/output interface

Market segments

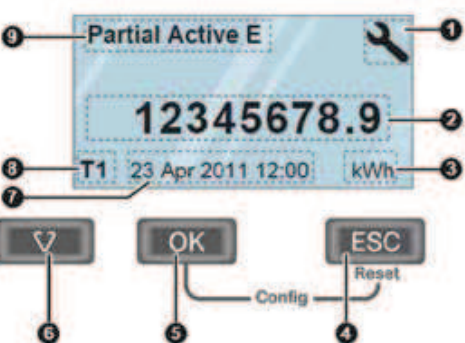
- Buildings & Industry
- Data centres and networks
- Infrastructure (airports, road tunnels, telecom)

Characteristics

- Self-powered meters
- Chain measurement (meters + CTs) accuracy class 1
- Compliance with IEC 61557-12, IEC 62053-21/22, IEC 62053-23, EN50470-3
- Graphical display for easy viewing
- Easy wiring (without CTs) iEM3100 series
- Double fixation on DIN rail (horizontal or vertical)
- Anti-tamper security features ensure the integrity of your data

Part numbers

Meter model and description	Current measurement	Part no.
iEM3100 basic energy meter	Direct connected 63 A	A9MEM3100
iEM3110 energy meter with pulse output	Direct connected 63 A	A9MEM3110
iEM3115 multi-tariff energy meter	Direct connected 63 A	A9MEM3115
iEM3150 energy meter & electrical parameter plus RS485 comm port	Direct connected 63 A	A9MEM3150
iEM3155 advanced multi-tariff energy meter & electrical parameter plus RS485 comm port	Direct connected 63 A	A9MEM3155
iEM3200 basic energy meter	Transformer connected 6 A	A9MEM3200
iEM3210 energy meter with pulse output	Transformer connected 6 A	A9MEM3210
iEM3215 multi-tariff energy meter	Transformer connected 6 A	A9MEM3215
iEM3250 energy meter & electrical parameter plus RS485 comm port	Transformer connected 6 A	A9MEM3250
iEM3255 advanced multi-tariff energy meter & electrical parameter plus RS485 comm port	Transformer connected 6 A	A9MEM3255



Front of meter parts

- 1 Configuration mode
- 2 Values and parameters
- 3 Unit
- 4 Cancellation
- 5 Confirmation
- 6 Selection
- 7 Date and time
- 8 Tariff currently used (iEM3255)
- 9 Functions/Measurements

Function guide	iEM3100	iEM3110	iEM3115	iEM3150	iEM3155	iEM3200	iEM3210	iEM3215	iEM3250	iEM3255
Direct measurement (up to 63 A)	■	■	■	■	■					
CTs inputs (1 A, 5A)						■	■	■	■	■
VTs inputs									■	■
Active energy measurements	■	■	■	■	■	■	■	■	■	■
Four quadrant energy measurements					■					■
Electrical measurements (I, V, P, etc.)				■	■				■	■
Multi-tariff (internal clock)			4		4			4		4
Multi-tariff (external control)			4		2			4		2
Measurement display	■	■	■	■	■	■	■	■	■	■
Programmable inputs					1					1
Programmable digital outputs					1					1
Pulse output		■					■			
kW overload alarm					■					■
Modbus RS485				■	■				■	■
MID (legal metrology certification)		■	■		■		■	■		■
Width (18 mm module in DIN Rail mounting)	5	5	5	5	5	5	5	5	5	5



Direct connected up to 63 A



CTs connected (1 A / 5 A)

Connectivity advantages

Programmable digital input	External tariff control signal (4 tariffs) Remote Reset partial counter External status, e.g. breaker status Collect WAGES pulses
Programmable digital output	kWh overload alarm (i EM3155/iEM5255) kWh pulses
Graphic LCD display	Scroll energies Current, voltage, power, frequency, power factor
Communication	Modbus RS485 with plug-in screw terminals allows connection to a daisy chain
Standards	
IEC standards integrated display	IEC 61557-12, IEC 61036, IEC 61010, IEC 62053-21/22 Class 1 and Class 0.5S, IEC 62053-23
MID	EN 50470-1/3

Multi-tariff capability

The iEM3000 range allows arrangement of kWh consumption in four different registers. This can be controlled by:

- Digital Inputs. Signal can be provided by PLC or utilities
- Internal clock programmable by HMI
- Through communication

This function allows users to:

- Make tenant metering for dual source applications to differentiate backup source or utility source
- Understand well the consumption during working time and non working time, and between working days and weekends
- Follow up feeders consumption in line with utility tariff rates

Specification guide	iEM3100 Range				
	iEM3100	iEM3110	iEM3115	iEM3150	iEM3155
Current (max.) Direct connected	63 A				
Meter constant LED	500/kWh				
Pulse output		Up to 1000p/kWh			Up to 1000p/kWh
Multi-tariff			4 tariffs		4 tariffs
Communication				Modbus via RS485	Modbus via RS485
DI/DO		0/1	2/0		1/1
MID (EN50470-3)		■	■		■
Network	1P+N, 3P, 3P+N				
Accuracy class	Class 1 (IEC 62053-21 and IEC61557-12) Class B (EN50470-3)				
Wiring capacity	16 mm ²				
Display max.	LCD 99999999.9kWh				
Voltage (L-L)	3 x 100/173 Vac to 3 x 277/480 Vac (50/60 Hz)				
IP protection	IP40 front panel and IP20 casing				
Temperature	-25°C to 55°C (K55)				
Product size	10 steps of 9mm				
Overvoltage and measurement	Category III, Degree of pollution 2				
kWh	■	■	■	■	■
kVARh					■
Active power				■	■
Reactive power					■
Currents and voltages				■	■
Overload alarm					■
Hour counter					■

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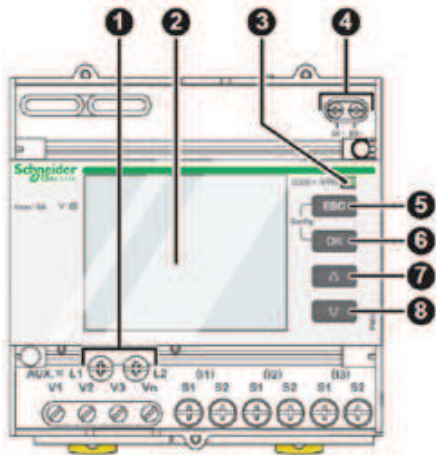
Specification guide	iEM3200 Range				
	iEM3200	iEM3210	iEM3215	iEM3250	iEM3255
1 A / 5 A CTs (max current)	6 A				
Meter constant LED	5000/kWh				
Pulse output frequency		Up to 100p/kWh			Up to 100p/kWh
Multi-tariff			4 tariffs		4 tariffs
Communication				Modbus via RS485	Modbus via RS485
DI/DO		0/1	2/0		1/1
MID (EN50470-3)		■	■		■
Network	1P+N, 3P, 3P+N support CTs			1P+N, 3P, 3P+N support CTs & VTs	
Accuracy class	Class 0.5S (IEC 62053-22 and IEC61557-12) Class C (EN50470-3) ⁽¹⁾				
Wiring capacity	6 mm² for currents and 4 mm² for voltages				
Display max.	LCD 99999999.9kWh or 99999999.9MWh				
Voltage (L-L)	3 x 100/173 Vac to 3 x 277/480 Vac (50/60 Hz)				
IP protection	IP40 front panel and IP20 casing				
Temperature	-25°C to 55°C (K55)				
Product size	10 steps of 9mm				
Overvoltage & measurement	Category III, Degree of pollution 2				
kWh	■	■	■	■	■
kVARh					■
Active power				■	■
Reactive power					■
Currents and voltages				■	■
Overload alarm					■
Hour counter					■
(1) For 1 A CTs Class 1 (IEC6253-21 and IEC61557-12 Class B (EN50470-3)					



Power Meter Series PM3200



Power Meter Series PM3255



- Front of meter parts
- 1 Control power
 - 2 Display with white backlit
 - 3 Flashing yellow meter indicator (to check accuracy)
 - 4 Pulse output for remote transfer (PM3210)
 - 5 Cancellation
 - 6 Confirmation
 - 7 Up
 - 8 Down

This PowerLogic Power meter offers basic to advanced measurement capabilities. With compact size and DIN rail mounting, the PM3200 allows mains and feeders monitoring in small electrical cabinets. Combined with current transformers and voltage transformers, these meters can monitor 2-, 3- and 4-wire systems. The graphic display has intuitive navigation to easily access important parameters.

Four versions are available offering basic to advanced applications:

- PM3200
 - Electrical parameters I, In, U, V, PQS, E, PF, Hz
 - Power/current demand
 - Min/max.
- PM3210
 - Electrical parameters I, In, U, V, PQS, E, PF, Hz, THD
 - Power/current demand, peak demand
 - Min/max.
 - 5 timestamped alarms
 - kWh pulse output
- PM3250
 - Electrical parameters I, In, U, V, PQS, E, PF, Hz, THD
 - Power/current demand, peak demand
 - Min/max.
 - 5 timestamped alarms
 - LED to indicate communications
 - RS485 port for Modbus communication
- PM3255
 - Electrical parameters I, In, U, V, PQS, E, PF, Hz, THD
 - Power/current demand and peak demand
 - Min/max. and 15 timestamped alarms
 - LED to indicate communications
 - Up to 4 tariffs management
 - 2 digital inputs, 2 digital outputs
 - Memory for load profile (demand 10mn to 60mn)
 - RS485 port for Modbus communication

- Innovative design makes the meters smart and simple:
- Easy to install for panel builders
- Easy to commission for contractors and installers
- Easy to operate for end users

Applications

Cost management applications

- Bill checking
- Sub-billing, including WAGES view
- Cost allocation, including WAGES view

Network management applications

- Panel instrumentation
- Up to 15 onboard timestamped alarms to monitor events
- Easy integration with PLC system by input/output interface

Market segments

- Buildings
- Industry
- Data centres and networks

Meter model and description	Performance	Part no.
PM3200 basic power meter	Basic power meter	METSEPM3200
PM3210 power meter with pulse output	Power, current, THD, peak demand	METSEPM3210
PM3250 power meter with RS485 port	Power, current, THD, peak demand	METSEPM3250
PM3255 power meter plus 2 digital inputs, 2 digital outputs with RS485 port	Power, current, THD, peak demand, memory for load profile	METSEPM3255

Function guide	PM3200 Range			
	PM3200	PM3210	PM3250	PM3255
Performance standard				
IEC61557-12 PMD/Sx/K55/0.5	■	■	■	■
General				
Use on LV and HV systems	■	■	■	■
Number of samples per cycle	32	32	32	32
CT input 1A/5A	■	■	■	■
VT input	■	■	■	■
Multi-tariff	4	4	4	4
Multi-lingual backlit display	■	■	■	■
Instantaneous rms values				
Current, voltage Per phase and average	■	■	■	■
Active, reactive, apparent power Total and per phase	■	■	■	■
Power factor Total and per phase	■	■	■	■
Energy values				
Active, reactive and apparent energy; import and export	■	■	■	■
Demand value				
Current, power (active, reactive, apparent) demand; present	■	■	■	■
Current, power (active, reactive, apparent) demand; peak		■	■	■
Power quality measurements				
THD Current and voltage		■	■	■
Data recording				
Min/max of the instantaneous values	■	■	■	■
Power demand logs				■
Energy consumption log (day, week, month)				■
Alarms with time stamping		5	5	15
Digital inputs/digital outputs		0/1		2/2
Communication				
RS-485 port			■	■
Modbus protocol			■	■



Power Meter Series PM3210

Connectivity advantages

Programmable digital input	External tariff control signal (4 tariffs) Remote Reset partial counter External status like breaker status Collect WAGES pulses
Programmable digital output	Alarm (PM3255) kWh pulses
Graphic LCD display	Backlit graphic display allows smart navigation in relevant information and in multi languages
Communication	Modbus RS485 with screw terminals allows connection to a daisy chain

Specifications	PM3200 Range
Type of measurement	True rms up to the 15th harmonic on three-phase (3P,3P+N) and single-phase AC systems. 32 samples per cycle
Measurement accuracy	
Current with x/5A CTs	0.3% from 0.5A to 6A
Current with x/1A CTs	0.5% from 0.1A to 1.2A
Voltage	0.3% from 50V to 330V (Ph-N), from 80V to 570V (Ph-Ph)
Power factor	± 0.005 from 0.5A to 6A with x/5A CTs; from 0.1A to 1.2A with x/1A CTs and from 0.5L to 0.8C
Active/Apparent Power with x/5A CTs	Class 0.5
Active/Apparent Power with x/1A CTs	Class 1
Reactive power	Class 2
Frequency	0.05% from 45 to 65Hz
Active energy with x/5A CTs	IEC62053-22 Class 0.5s
Active energy with x/1A CTs	IEC62053-21 Class 1
Reactive energy	IEC62053-23 Class 2
Data update rate	
Update rate	1s
Input-voltage characteristics	
Measured voltage	50V to 330V AC (direct / VT secondary Ph-N) 80V to 570V AC (direct / VT secondary Ph-Ph) up to 1MV AC (with external VT)
Frequency range	45Hz to 65Hz
Input-current characteristics	
CT primary	Adjustable from 1A to 32767A
CT secondary	1A or 5A
Measurement input range with x/5A CTs	0.05A to 6A
Measurement input range with x/1A CTs	0.02A to 1.2A
Permissible overload	10A continuous, 20A for 10s/hour
Control Power	
AC	100/173 to 277/480V AC (+/-20%), 3W/5VA; 45Hz to 65Hz
DC	100 to 300V DC, 3W
Input	
Digital inputs (PM3255)	11 to 40V DC, 24V DC nominal, $\leq 4\text{mA}$ maximum burden, 3.5kVrms insulation
Output	
Digital output (PM3210)	Optocoupler, polarity sensitive, 5 to 30V, 15mA max, 3.5kVrms insulation
Digital outputs (PM3255)	Solid state relay, polarity insensitive, 5 to 40V, 50mA max, 50 Ω max, 3.5kVrms insulation

Specifications (continued)	PM3200 Range
Mechanical characteristics	
Weight	0.26kg
IP degree of protection (IEC60529)	IP40 front panel, IP20 meter body
Dimension	90 x 95 x 70mm
Environmental conditions	
Operating temperature	-25 °C to +55 °C
Storage temperature	-40 °C to +85 °C
Humidity rating	5 to 95% RH at 50°C (non-condensing)
Pollution degree	2
Metering category	III, for distribution systems up to 277/480VAC
Dielectric withstand	As per IEC61010-1, Doubled insulated front panel display
Altitude	3000m max
Electromagnetic compatibility	
Electrostatic discharge	Level IV (IEC61000-4-2)
Immunity to radiated fields	Level III (IEC61000-4-3)
Immunity to fast transients	Level IV (IEC61000-4-4)
Immunity to surge	Level IV (IEC61000-4-5)
Conducted immunity	Level III (IEC61000-4-6)
Immunity to power frequency magnetic fields	0.5mT (IEC61000-4-8)
Conducted and radiated emissions	Class B (EN55022)
Safety	
	CE as per IEC61010-1 ⁽¹⁾
Communication	
RS485 port	Half duplex, from 9600 up to 38400 bauds, Modbus RTU (double insulation)
Display characteristics	
Dimensions (VA)	43mm x 34.6mm
Display resolution	128 x 96 dots
Standard compliance	
	IEC61557-12, EN61557-12 IEC61010-1, UL61010-1 IEC62052-11, IEC62053-21, IEC62053-22, IEC62053-23 EN50470-1, EN50470-3

(1) Protected throughout by double insulation

Multi-tariff capability

The PM3200 range allows arrangement of kWh consumption in four different registers. This can be controlled by:

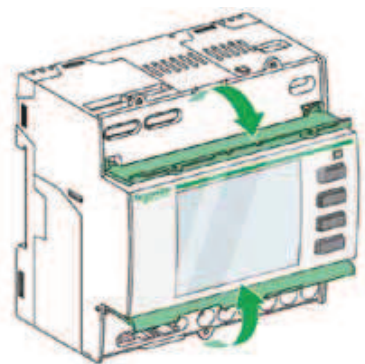
- Digital Inputs. Signal can be provided by PLC or utilities
- Internal clock programmable by HMI
- Through communication

This function allows users to:

- Make tenant metering for dual source applications to differentiate backup source or utility source
- Understand well the consumption during working time and non working time, and between working days and weekends
- Follow up feeders consumption in line with utility tariff rates

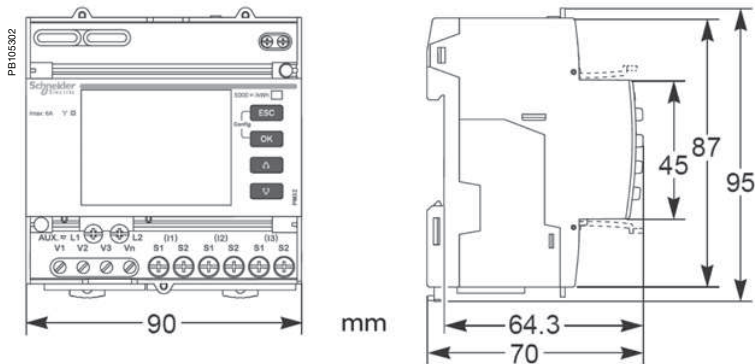


Power Meter Series PM3250

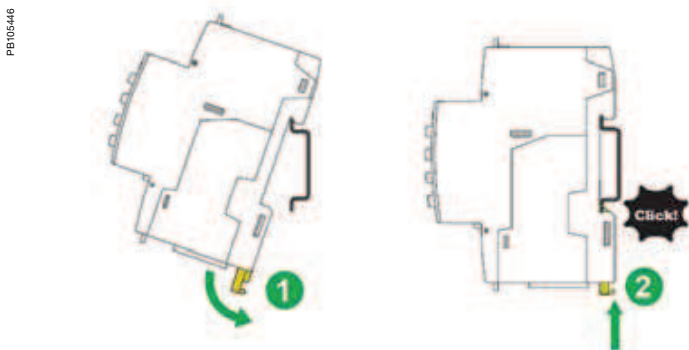


PM3200 top and lower flaps

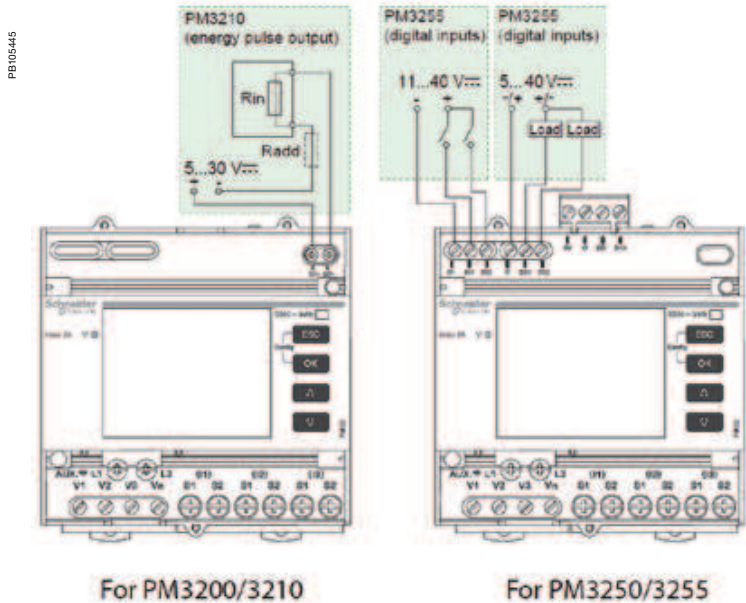
PM3200 series dimensions



PM3200 series easy installation



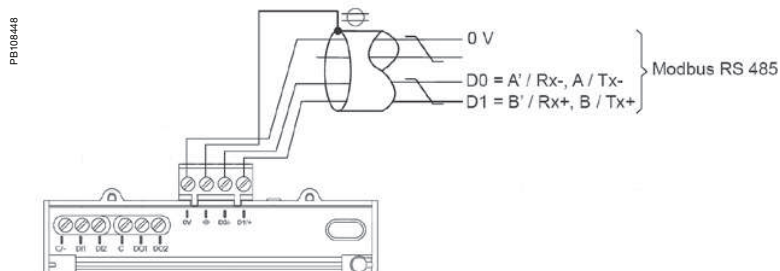
Digital Output and Digital Input sample wiring diagrams



Note: These are sample wiring diagrams only. For further information please see the Instruction Sheet and User Guide documents for these products.

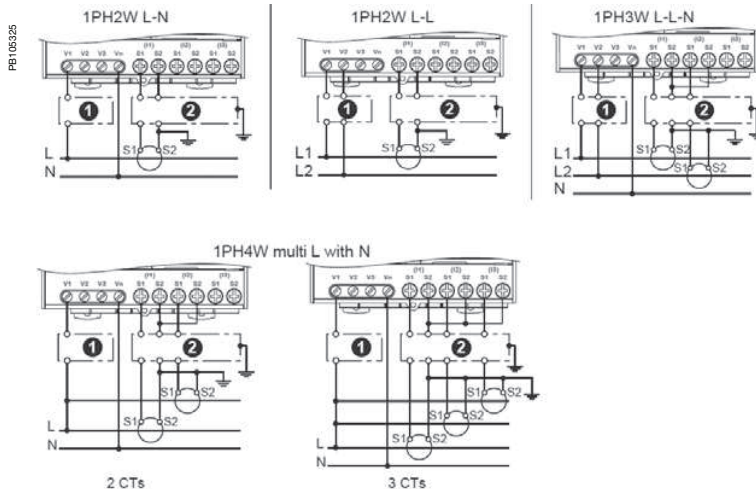
Note: These are sample wiring diagrams only. For further information please see the Instruction Sheet and User Guide documents for these products.

Modbus communications wiring diagram



PM32xx series sample wiring diagrams - 1 phase

- 1 Protection (to be adapted to suit the short-circuit current at the connection point)
- 2 Shorting switch unit

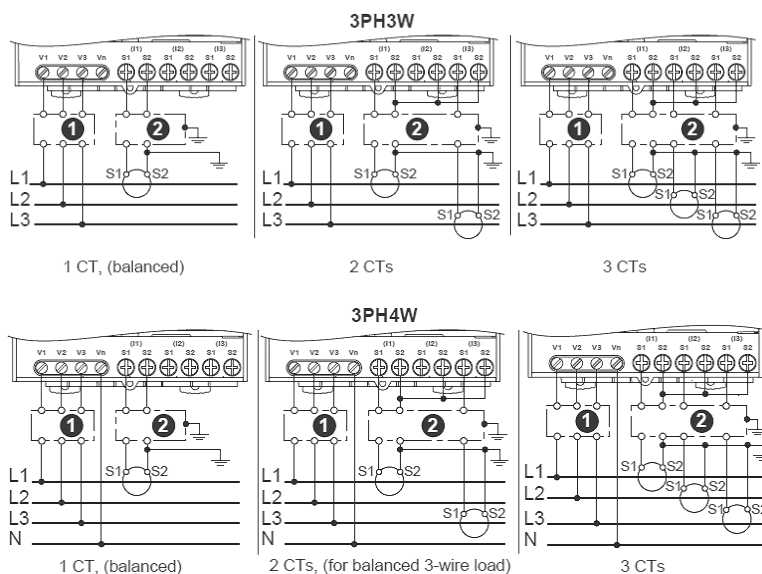


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Note: These are sample wiring diagrams only. For further information please see the Instruction Sheet and User Guide documents for these products.

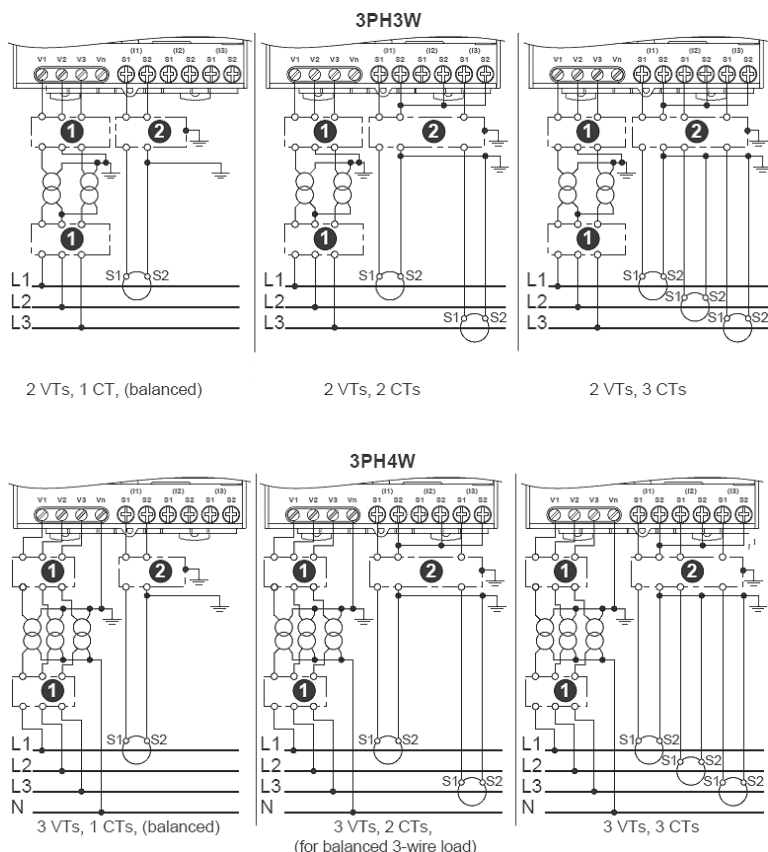
PM32xx Series sample wiring diagrams - 3 phase without VTs

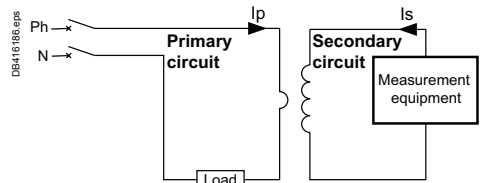
- 1 Protection (to be adapted to suit the short-circuit current at the connection point)
- 2 Shorting switch unit



PM32xx Series sample wiring diagrams - 3 phase with VTs

Note: These are sample diagrams only. For further information please see the Instruction Sheet and User Guide documents for these products.





Application diagram of a CT.

The Ip/5A ratio current transformer delivers at the secondary a current (Is) of 0 to 5 A that is proportional to the current measured at the primary (Ip).

This allows them to be used in combination with measurement equipment:

- ammeters
- kilowatt-hour meters
- measurement units
- control relays
- etc.

When the primary is energized, the measurement equipment nearly acts as a short circuit which keeps the secondary voltage very low. This voltage will increase significantly if the short circuit is removed.

CT selection - conductor rating aspects

The choice depends on the conductor profile and the maximum intensity of the primary circuit.

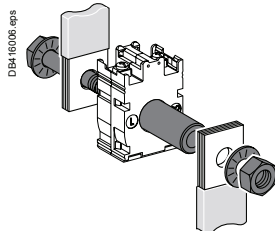
CT with let-through primary					
Conductor type	Cable	Mixed, bars or cables	Vertical or horizontal bars	Vertical bars	
Suggested Current Transformer and mounting					
Ratings (A)	40 to 250	150 to 800	200 to 4000	500 to 600	5000 to 6000
CT internal profile	Type C	Type M	Type D ⁽¹⁾	Type V	

(1) Two secondary connectors (parallel internal wiring - only one secondary winding) for easier cable access. 1 lateral + 1 on one extremity. Warning: only one must be used at a time.

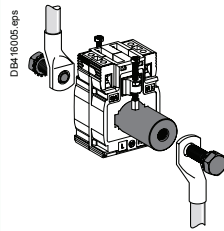
Specific mounting: use of cylinder

A cylindrical metallic spacer ensures a proper CT positioning when the conductor or the CT cannot be positioned perpendicular. Secured by bolt + nut.

CT with primary connection by screw and nut
(example: use of cylinder with bar or cable)



16550 (brass)



METSECT5CYL1 (aluminium)

CT selection - Electrical aspect Ip/5 A

- We recommend that you choose the ratio immediately higher than the maximum measured current (In).

Example:

In = 1103 A; ratio chosen = 1250/5.

- For small ratings:

from 40/5 to 75/5 and for an application with digital devices, we recommend that you choose a higher rating, for example 100/5.

This is because small ratings are less accurate and the 40 A measurement, for example, will be more accurate with a 100/5 CT than with a 40/5 CT.

- Specific case of the motor starter:

to measure motor starter current, you must choose a CT with primary current $I_p = I_d/2$ (I_d = motor starting current).

Validation of measurement solution according accuracy class

It consists in controlling the right adaptation of the CT on the accuracy class aspect. The accuracy class is specified in the project. The total dissipated power of the measurement circuit (meter + cables) should not be superior to the specified limit of the CT. This limit is for different standard classes. If necessary, the choice of the cable section, the CT or meter should be modified to fit the requirement.

Copper cable cross-section (mm ²)	Power per doubled meter at 20 °C (VA)	Schneider Electric device	Consumption of the current input (VA)
1	1	Ammeter 72 x 72 / 96 x 96	1.1
1.5	0.685	Analogue ammeter	1.1
2.5	0.41	Digital ammeter	0.3
4	0.254	PM700, PM800	0.15
6	0.169	PM3000	0.3
10	0.0975		
16	0.062		

For each temperature variation per 10 °C bracket, the power drawn up by the cables increases by 4 %.

Application example

Project specification: **200 A**, in **Ø27 mm** cable, accuracy class 1.

Our choice is **METSECT5MA020**.

For this CT selected on the chart (next page), the max acceptable power is **7 VA** (for "Accuracy class 1" which is specified in the project).

Internal profile type	Cables (mm)	Bars (mm)	Rating Ip/5 A (A)	Cat. no.	Accuracy class	Max. power (VA)
MA	Ø27	10 x 32	150	METSECT5MA015	3	4
		15 x 25	200	METSECT5MA020	1	7
			250	METSECT5MA025	6	8
			300	METSECT5MA030	8	10
			400	METSECT5MA040	10	12

Control of the conformity of the measurement chain:

- PM3000 multi-meter: 0.3 VA.
- 4 meters of 2.5 mm², doubled wires: 0.41 x 4 = 1.64 VA.

Total: 0.3 + 1.64 = 1.94 VA (< 7 VA)

Conclusion: this CT is well adapted as the accuracy class will be even better than 1.

Presentation of catalogue numbers

MET SE CT R FF XXX

First digit = secondary rating,
R = 5 Amps

Last 3 digits = primary rating/10
2 letters = Form Factor

Examples:

- METSECT5CC008 = 5 A secondary, Cables only, 75 A primary
- METSECT5MC080 = 5 A secondary, Mixed for cables and bars, 800 A primary.

Type C - current transformer (cable profile)

Internal profile type	Cables (mm)	Bars (mm)	Rating Ip/5 A (A)	Cat. no.	
CC					
	Ø21	-	40	METSECT5CC004	
			50	METSECT5CC005	
			60	METSECT5CC006	
			75	METSECT5CC008	
			100	METSECT5CC010	
			125	METSECT5CC013	
			150	METSECT5CC015	
			200	METSECT5CC020	
			250	METSECT5CC025	

Type M - current transformers (mixed: cable/bar profile)

ME					
	Ø22	10 x 30 11 x 25 12 x 20	150	METSECT5ME015	
			200	METSECT5ME020	
			250	METSECT5ME025	
			300	METSECT5ME030	
			400	METSECT5ME040	
			500	METSECT5ME050	
		600	METSECT5ME060		
MB					
	Ø26	12 x 40 15 x 32	250	METSECT5MB025	
			300	METSECT5MB030	
			400	METSECT5MB040	
MA					
	Ø27	10 x 32 15 x 25	150	METSECT5MA015	
			200	METSECT5MA020	
			250	METSECT5MA025	
			300	METSECT5MA030	
			400	METSECT5MA040	
MC					
	Ø32	10 x 40 20 x 32 25 x 25	250	METSECT5MC025	
			300	METSECT5MC030	
			400	METSECT5MC040	
			500	METSECT5MC050	
			600	METSECT5MC060	
			800	METSECT5MC080	
MF					
	Ø35	10 x 40	250	METSECT5MF025	
			300	METSECT5MF030	
			400	METSECT5MF040	
			500	METSECT5MF050	
MD					
	Ø40	12 x 50 20 x 40	500	METSECT5MD050	
			600	METSECT5MD060	
			800	METSECT5MD080	

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METSECT5CC004

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METSECT5ME015

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METSECT5MB025

PB112450.eps



METSECT5MA015

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METSECT5MC025

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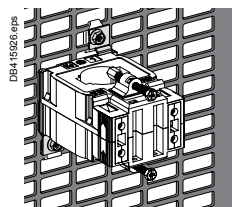


METSECT5MF025

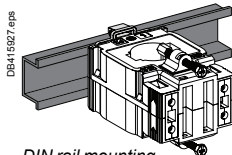
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METSECT5MD050



Mounting plate installation.



DIN rail mounting.

Common characteristics

Secondary current Is (A)	5
Maximum voltage rating Ue (V)	720
Frequency (Hz)	50/60
Safety factor (sf)	40 to 4000 A: sf ≤ 5 5000 to 6000 A: sf ≤ 10
Degree of protection	IP20
Operating temperature	- tropicalised range -25 °C to +60 °C ⁽¹⁾ - relative humidity > 95 %
Compliance with standards	- IEC 61869-2 - VDE 0414
Secondary connection (as per model)	- by terminals for lug - by tunnel terminals - by screws

⁽¹⁾ Warning: some products are limited to +50 °C.

Accuracy class			Dimensions W x H x D (mm)	Fastening mode	Accessories Cylinder	Sealable cover
0.5	1	3				
Max. power (VA)						
-	-	1	44 x 65 x 30	- Adapter for DIN rails. - Mounting plate.	16550 METSECT5CYL1	Included
-	1.25	1.5				
-	1.25	2				
-	1.5	2.5				
2	2.5	3.5				
2.5	3.5	4				
3	4	5				
4	5.5	6	56 x 84 x 42	- Adapter for DIN rails. - Mounting plate. - Insulated locking screw.	16551	16552
5	6	7				
-	1.25	1.5				
-	1.25	2				
-	1.5	2.5				
2	2.5	3.5				
2.5	3.5	4				
3	4	5				
4	5.5	6				
5	6	7				
1.5	5.5	6.5	Option, DIN rail mounting: 60.5 x 88.5 x 46.5	- Adapter for DIN rails. - Mounting plate. - Insulated locking screw.	16551	16552
4	7	8.5				
6	9	11				
7.5	11	14				
10.5	15	18				
12	18	22				
14.5	21.5	26				
3	4	-	60 x 85 x 43	- Adapter for DIN rails. - Mounting plate.	-	METSECT5COVER
4	6	-				
6	8	-				
3	4	-	56 x 80 x 43	- Adapter for DIN rails. - Mounting plate.	METSECT5CYL2	METSECT5COVER
4	7	-				
6	8	-				
8	10	-				
10	12	-				
3	5	-	70 x 95 x 45	- Adapter for DIN rails. - Mounting plate.	-	METSECT5COVER
5	8	-				
8	10	-				
10	12	-				
12	15	-				
10	12	-				
2.5	5	8	77 x 107 x 46	- Adapter for DIN rails. - Mounting plate. - Insulated locking screw.	-	16553
4	8	12				
8	12	15				
10	12	15				
4	6	-	70 x 95 x 45	- Adapter for DIN rails. - Mounting plate.	-	METSECT5COVER
6	8	-				
8	12	-				



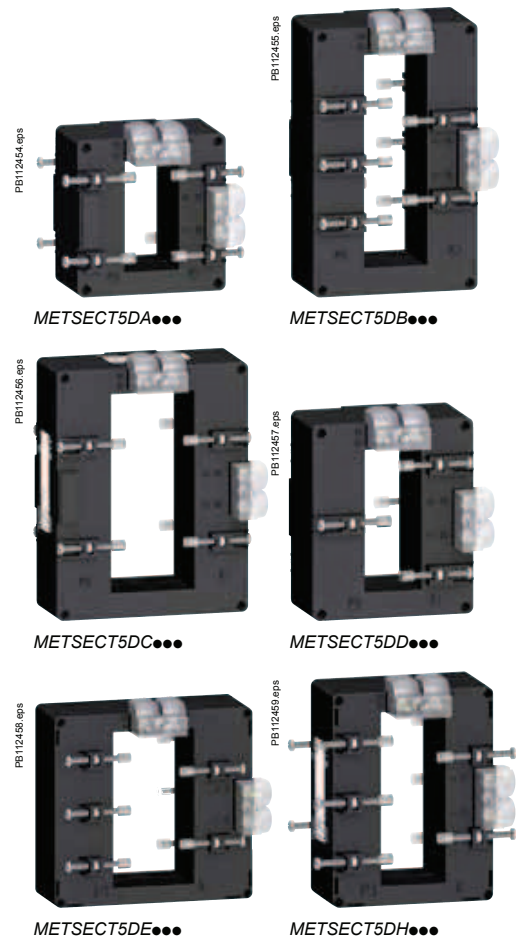
Type V current transformers (vertical bar profile)

Internal profile type	Cables (mm)	Bars (mm)	Rating Ip/5 A (A)	Cat. no.	
VF	-	11 x 64 31 x 51	500	METSECT5VF050	
			600	METSECT5VF060	
VV	-	55 x 165	5000	METSECT5VV500 *	
			6000	METSECT5VV600 *	

Type D - current transformers (vertical or horizontal bar - dual secondary terminals)

DA	-	32 x 65	200	METSECT5DA020	
			250	METSECT5DA025	
			300	METSECT5DA030	
			400	METSECT5DA040	
			500	METSECT5DA050	
			600	METSECT5DA060	
			800	METSECT5DA080	
			1000	METSECT5DA100	
			1250	METSECT5DA125 *	
			1500	METSECT5DA150 *	
DB	-	38 x 127	1000	METSECT5DB100	
			1250	METSECT5DB125 *	
			1500	METSECT5DB150 *	
			2000	METSECT5DB200 *	
			2500	METSECT5DB250 *	
			3000	METSECT5DB300 *	
DC	-	52 x 127	2000	METSECT5DC200 *	
			2500	METSECT5DC250 *	
			3000	METSECT5DC300 *	
			4000	METSECT5DC400 *	
DD	-	34 x 84	1000	METSECT5DD100	
			1250	METSECT5DD125 *	
			1500	METSECT5DD150 *	
DE	-	54 x 102	1000	METSECT5DE100	
			1250	METSECT5DE125 *	
			1500	METSECT5DE150 *	
			2000	METSECT5DE200 *	
DH	-	38 x 102	1250	METSECT5DH125 *	
			1500	METSECT5DH150 *	
			2000	METSECT5DH200 *	

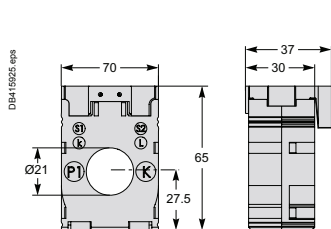
* Operating temperature: -25 °C to +50 °C.



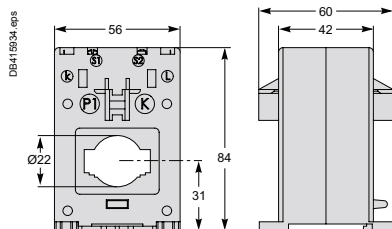
Accuracy class				Dimensions W x H x D (mm)	Fastening mode	Accessories Cylinder 	Sealable cover 
0.5	1	3	Max. power (VA)				
2	4	-	90 x 113 x 48	■ Mounting plate. ■ Insulated locking screw.	-		Included
4	6	-					
60	-	-	177 x 242 x 110	■ Insulated locking screw.	-		Included
70	-	-					
-	2	5	90 x 94 x 90	■ Insulated locking screw.	-		Included
1	4	-					
1.5	6	-					
4	8	-					
8	10	-					
8	12	-					
12	15	-					
15	20	-					
15	20	-	99 x 160 x 58	■ Insulated locking screw.	-		Included
20	25	-					
6	10	-					
8	12	-					
10	15	-					
15	20	-	125 x 160 x 40	■ Insulated locking screw.	-		Included
20	25	-					
25	30	-					
25	30	-					
30	50	-	96 x 116 x 58	■ Insulated locking screw.	-		Included
30	50	-					
30	50	-					
30	50	-					
10	15	-	135 x 129 x 50	■ Insulated locking screw.	-		Included
12	15	-					
15	20	-					
12	15	-	98 x 129 x 40	■ Insulated locking screw.	-		Included
15	20	-					
20	25	-					
20	25	-					

CT current transformers

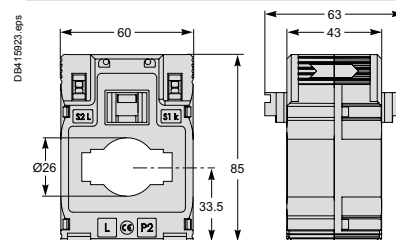
CC internal profile type



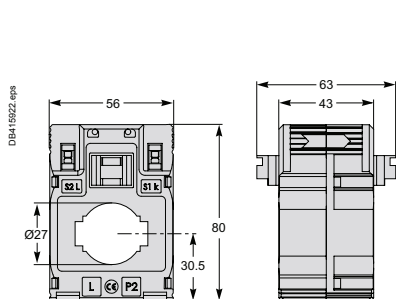
ME internal profile type



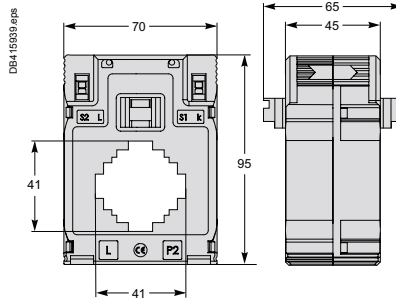
MB internal profile type



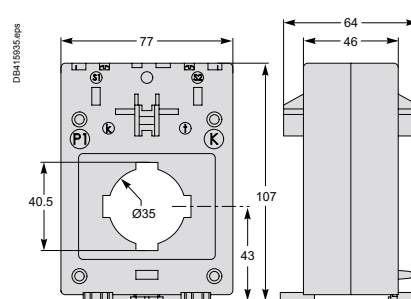
MA internal profile type



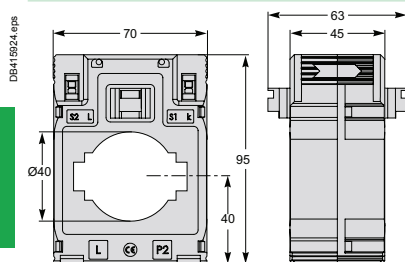
MC internal profile type



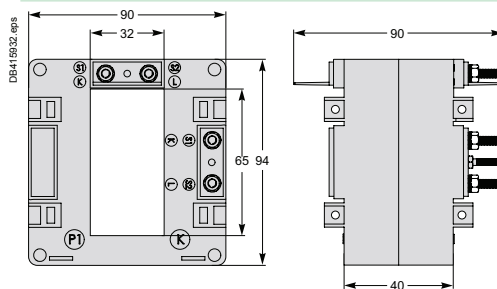
MF internal profile type



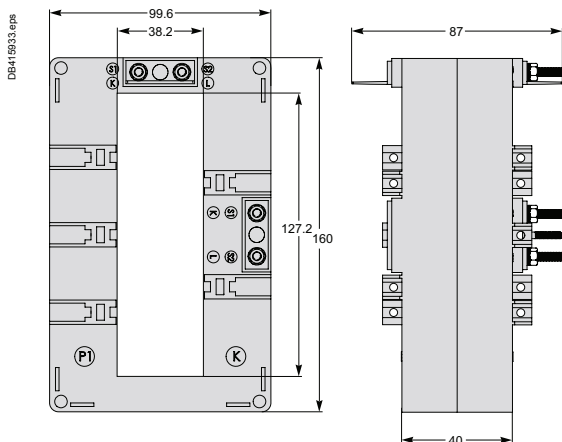
MD internal profile type



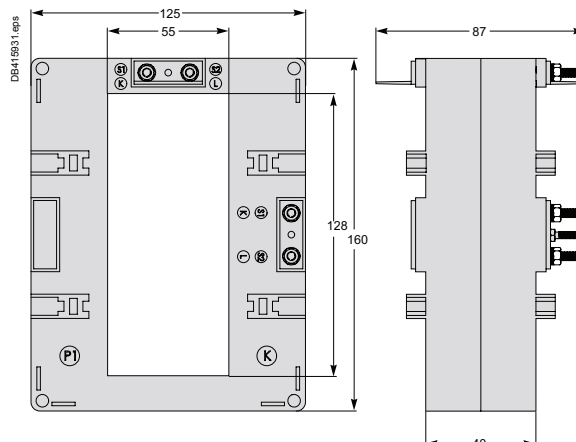
DA internal profile type



DB internal profile type

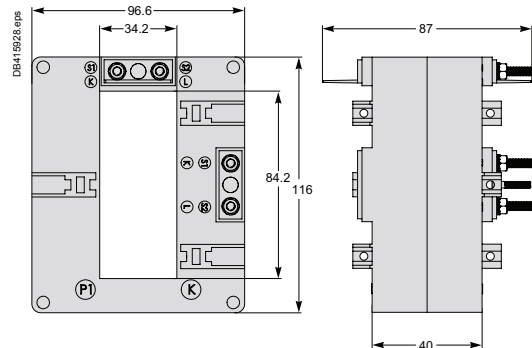


DC internal profile type

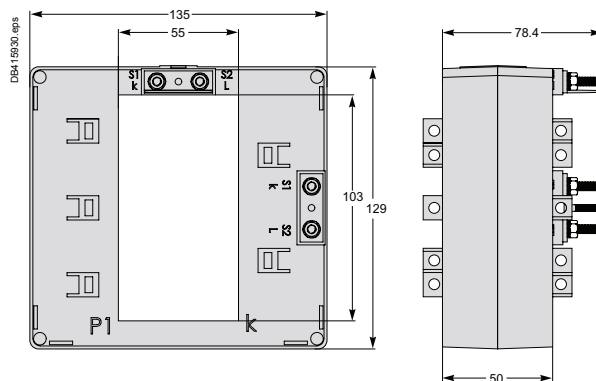


CT current transformers

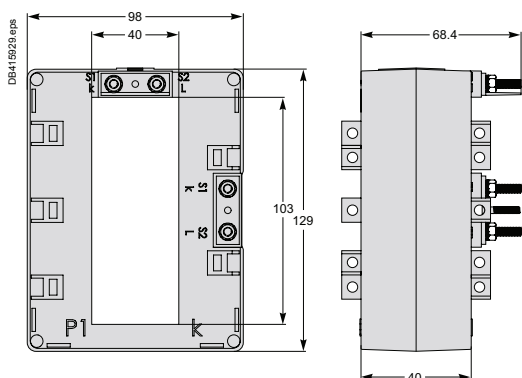
DD internal profile type



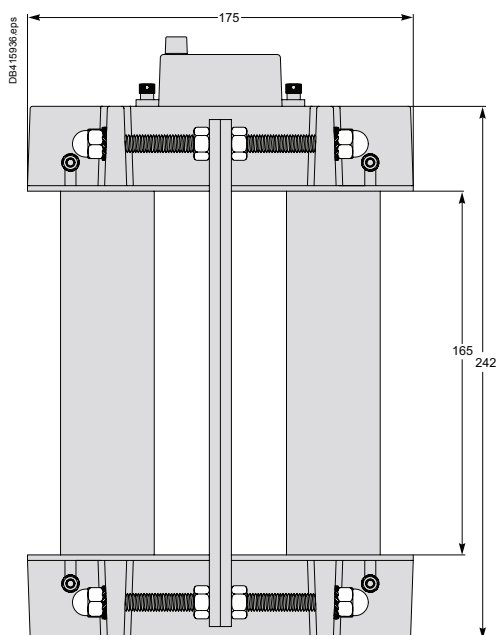
DE internal profile type



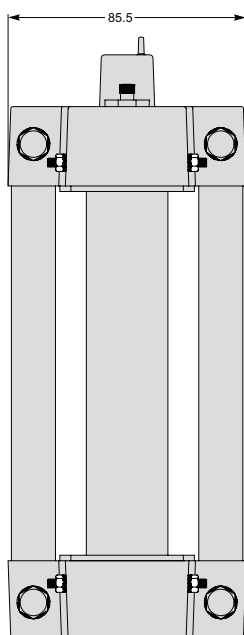
DH internal profile type



VV internal profile type

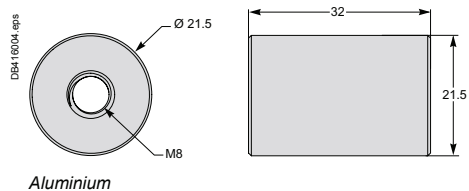


VF internal profile type

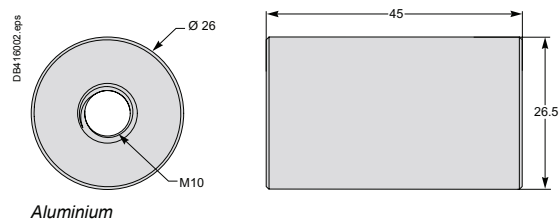


Cylinders

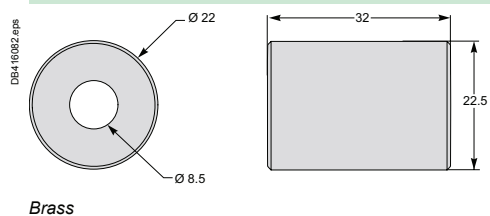
METSECT5CYL1



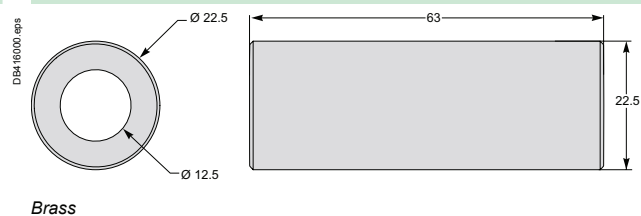
METSECT5CYL2



16550

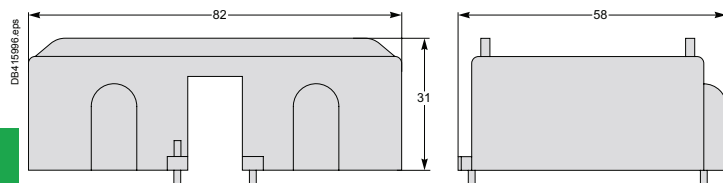


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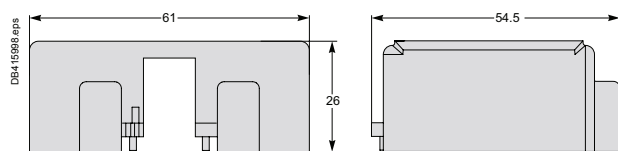


Covers

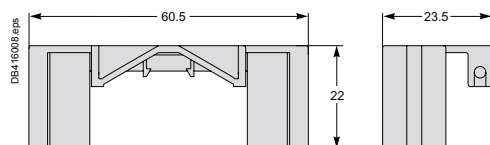
16552



16553



METSECT5COVER





Application

The CH counters measure the total operating time of any load. The CI counters count 230Vac pulses from devices such as utility meters or people counters.

Specific technical data

CH	
Electromechanical display	
Maximum display:	99999.99 hours
Display accuracy:	0.01%
Without reset	
Storage temperature:	-25°C to +85°C
Connection:	Tunnel terminals for 2.5mm² cable
Consumption:	0.15VA
Operating temperature:	-10°C to +70°C
Mounting on symmetrical rail	

CI	
Supply and metering voltage:	230Vac, 50/60 Hz
Consumption:	0.15VA
Maximum display:	9 999 999 impulses
Without reset	
Metering data	Minimum impulse time: 50ms
	Minimum time between 2 impulses: 50ms
Storage temperature:	-25°C to +85°C
Operating temperature:	-10°C to +70°C
Connection:	Tunnel terminals for 2.5mm² cable

Type	Control voltage	Width in 18mm ways	Part number
CH	230Vac	2	15440
CI	230Vac	2	15443

