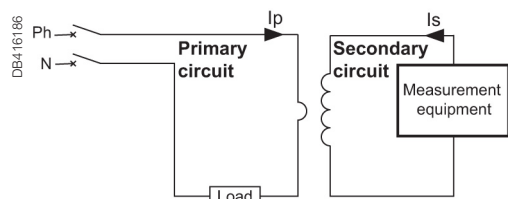


Current transformers

Schneider Electric is the global specialist in energy management with the most complete power monitoring product line. Current Transformers are essential components designed to be used with Schneider Electric's extensive power monitoring product portfolio. From simple energy meters to world class power quality meters, these proven products satisfy any requirement.



$I_p/5$ A ratio



Application diagram of a CT.

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

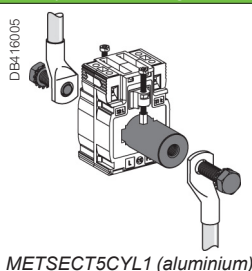
Conductor type	Cable	Mixed, bars or cables	Vertical or horizontal bars	Vertical bars
Suggested Current Transformer and mounting	DB415986 	DB415920 	DB415988 	DB415989
Ratings (A)	40 to 250	150 to 800	200 to 4000	5000 to 6000
CT internal	Type C	Type M	Type D ⁽¹⁾	Type V
	FF C 	FF MA FF MB FF MC FF MD 	FF D 	FF V2 VV

(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.

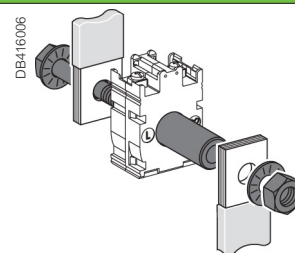
Specific mounting: use of cylinder

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)



METSECT5CYL1 (aluminium)



16550 (brass)

NOTE: This document is not intended to be used as an installation guide.

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 to 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	Analog ammeter	1.1
2.5	0.41	Digital ammeter	0.3
4	0.254	PM8000	0.15
6	0.169	PM3000	0.3
10	0.0975	PM5000	
16	0.062	iEM3000	

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)	Commercial reference number	Accuracy class		
					0.5	1	3
					Max. power (VA)		
MA							
	Ø27	10 x 32	150	METSECT5MA015	3	4	-
		15 x 25	200	METSECT5MA020	4	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.

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E in the USA, CSA Z462 or applicable local standards.
- Turn off all power supplying this device and the equipment in which it is installed before working on the device or equipment.
- Always use a properly rated voltage sensing device to confirm that all power is off.
- Treat I/O wiring connected to multiple devices as hazardous live until determined otherwise.
- Do not exceed the device's ratings for maximum limits.
- Do not use this device for critical control or protection applications where human or equipment safety relies on the operation of the control circuit.
- Disconnect all the device's input and output wires before performing dielectric (hi-pot) or Megger testing.

CT DAMAGE

- Never open circuit a current transformer (CT)
- Do not open the CT case.
- Do not attempt to repair any components of the CT.

Failure to follow these instructions will result in death or serious injury.

PB118085

Presentation of commercial reference numbers

MET SE CT

X

XX

XXX

1 = 1 Amp
5 = 5 Amp
R = Rogowski

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

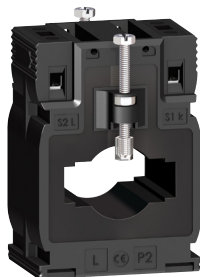
METSECTR30500 = Rogowski CT, 300 mm length, 96 mm diameter 50 A to 5000 A

PB112446



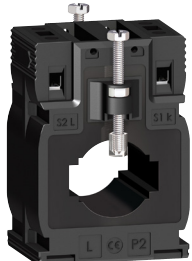
METSECT5CC...

PB112461



METSECT5MB...

PB112460



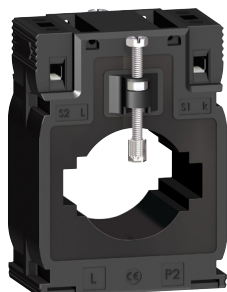
METSECT5MA...

PB112462



METSECT5MC...

PB112463

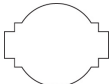


METSECT5MD...

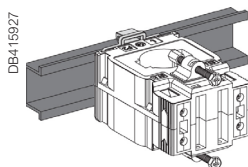
Type C - solid core current transformer (cable profile)

Internal profile type	Cables (mm)	Bars (mm)	Rating Ip/5 A (A)	Commercial ref number
FF 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)

MB					
FF MB		Ø26	12 x 40 15 x 32	250	METSECT5MB025
				300	METSECT5MB030
				400	METSECT5MB040
MA					
FF MA		Ø27	10 x 32 15 x 25	150	METSECT5MA015
				200	METSECT5MA020
				250	METSECT5MA025
				300	METSECT5MA030
				400	METSECT5MA040
MC					
FF MC		Ø32	10 x 40 20 x 32 25 x 25	250	METSECT5MC025
				300	METSECT5MC030
				400	METSECT5MC040
				500	METSECT5MC050
				600	METSECT5MC060
				800	METSECT5MC080
MD					
FF MD		Ø40	12 x 50 20 x 40	500	METSECT5MD050
				600	METSECT5MD060
				800	METSECT5MD080

See your Schneider Electric representative for complete ordering information.



Mounting plate installation.

DIN rail mounting.

Common characteristics	
Secondary current Is (A)	5 A
Maximum voltage rating Ue (V)	720 V
Frequency (Hz)	50/60 Hz
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 (*) relative humidity > 95 %
Storage temperature	-40°C to +85°C
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.

Internal profile type	Accuracy class	Overall dimensions (refer to drawing pages for details) W x H x D (mm)	Fastening mode	Accessories Cylinder			
	0.5 1 3						
CC		Dimension (mm)		Commercial ref no.			
	-	-	1	44 x 66 x 37	■ 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				
	5	6	7				
MB							
	3	5	-	60 x 85 x 63	■ Adapter for DIN rails. ■ Mounting plate.	-	METSECT5COVER
	4	6	-				
	6	8	-				
MA							
	3	4	-	56 x 80 x 63	■ Adapter for DIN rails. ■ Mounting plate.	METSECT5CYL2	METSECT5COVER
	4	7	-				
	6	8	-				
	8	10	-				
	10	12	-				
MC							
	3	5	-	70 x 95 x 65	■ Adapter for DIN rails. ■ Mounting plate.	-	METSECT5COVER
	5	8	-				
	8	10	-				
	10	12	-				
	12	15	-				
	10	12	-				
MD							
	4	6	-	70 x 95 x 65	■ Adapter for DIN rails. ■ Mounting plate.	-	METSECT5COVER
	6	8	-				
	8	12	-				

See your Schneider Electric representative for complete ordering information.

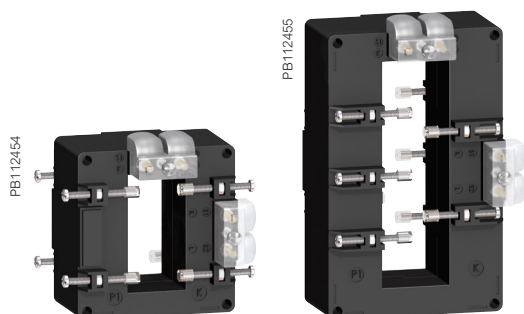
NOTE: This document is not intended to be used as an installation guide.



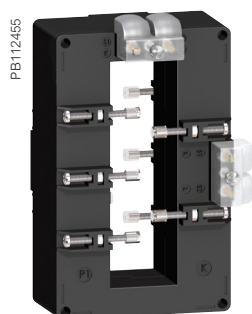
METSECT5VV...

Type V - current transformers (vertical bar profile)

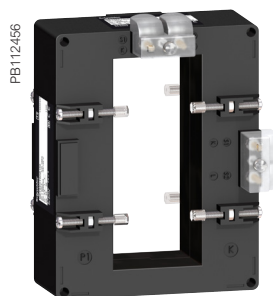
Internal profile type	Cables (mm)	Bars (mm)	Rating Ip/5 A (A)	Commercial reference number
VV	-	55 x 165	5000	METSECT5VV500 ★
			6000	METSECT5VV600 ★



METSECT5DA...



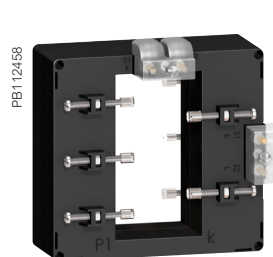
METSECT5DB...



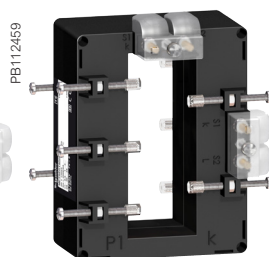
METSECT5DC...



METSECT5DD...



METSECT5DE...



METSECT5DH...

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

DA				
		32 x 65	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

See your Schneider Electric representative for complete ordering information.

Type V - solid core current transformers (vertical bar profile)

Internal profile type	Accuracy class			Overall dimensions (refer to drawing pages for details) W x H x D (mm)	Fastening mode	Accessories		
	0.5	1	3			Cylinder	Sealable cover	
	Max. power (VA)							
VV								
Dimension (mm)								
FF V2		60	-	-	175 x 273.5 x 110	■ Insulated locking screw.	-	Included
		70	-	-				

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

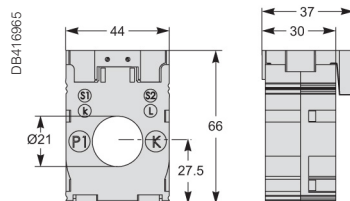
DA				Dimension (mm)			
	4	8	-	90 x 94 x 90	■ Insulated locking screw.	-	Included
	8	10	-				
	8	12	-				
	12	15	-				
	15	20	-				
	15	20	-				
	20	25	-				
DB							
	6	10	-	99 x 160 x 87	■ Insulated locking screw.	-	Included
	8	12	-				
	10	15	-				
	15	20	-				
	20	25	-				
	25	30	-				
DC							
	25	30	-	125 x 160 x 87	■ Insulated locking screw.	-	Included
	30	50	-				
	30	50	-				
	30	50	-				
DD							
	10	15	-	96 x 116 x 87	■ Insulated locking screw.	-	Included
	12	15	-				
	15	20	-				
DE							
	12	15	-	135 x 129 x 85	■ Insulated locking screw.	-	Included
	15	20	-				
	20	25	-				
	20	25	-				
DH							
	12	15	-	98 x 129 x 75	■ Insulated locking screw.	-	Included
	12	15	-				
	20	25	-				

★ Operating temperature: -25 °C to 50 °C

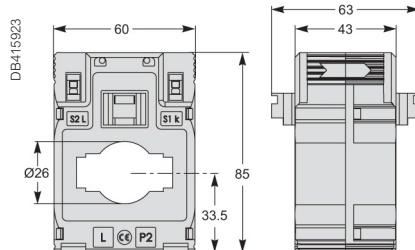
See your Schneider Electric representative for complete ordering information.

Solid core CT dimensions

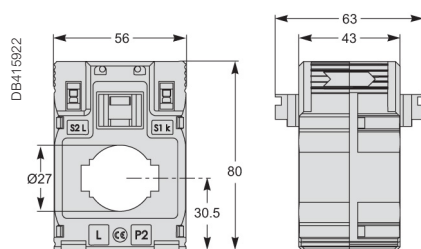
CC internal profile type



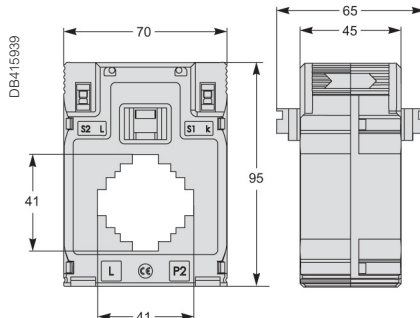
MB internal profile type



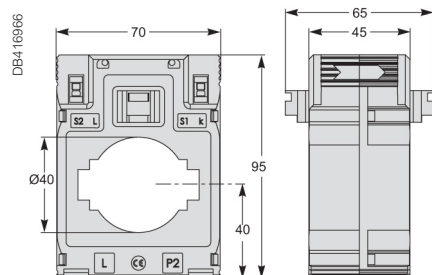
MA internal profile type



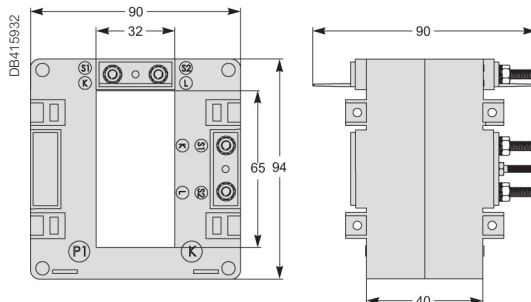
MC internal profile type



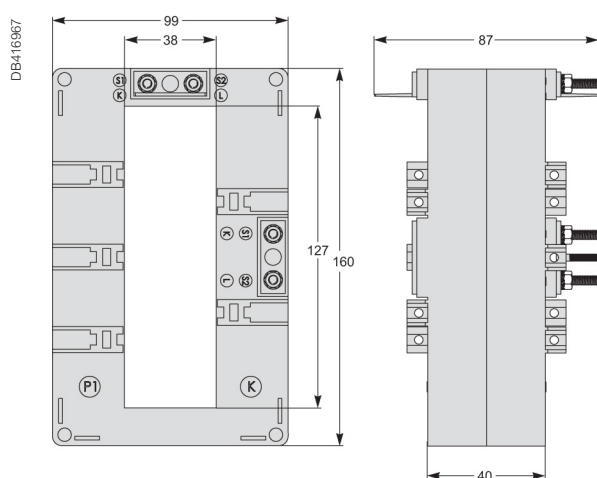
MD internal profile type



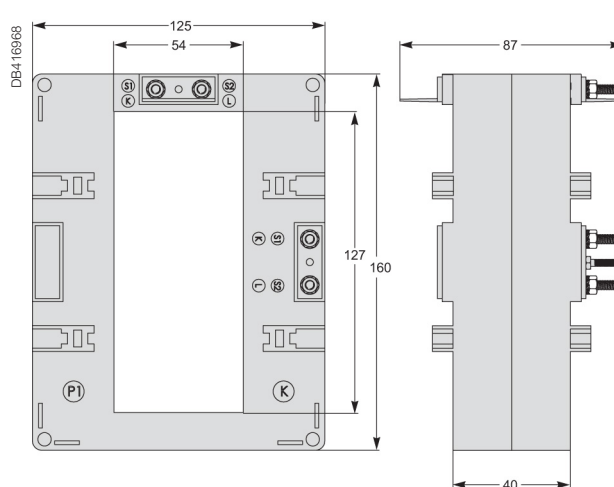
DA internal profile type



DB internal profile type

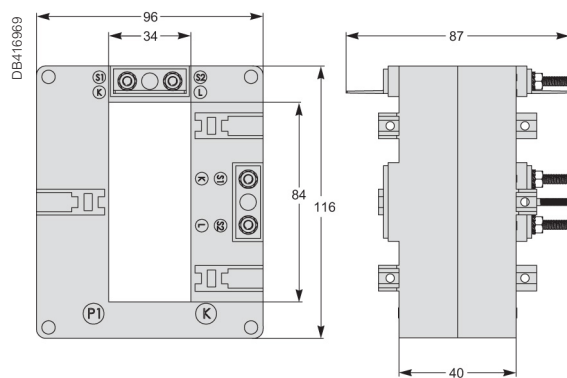


DC internal profile type

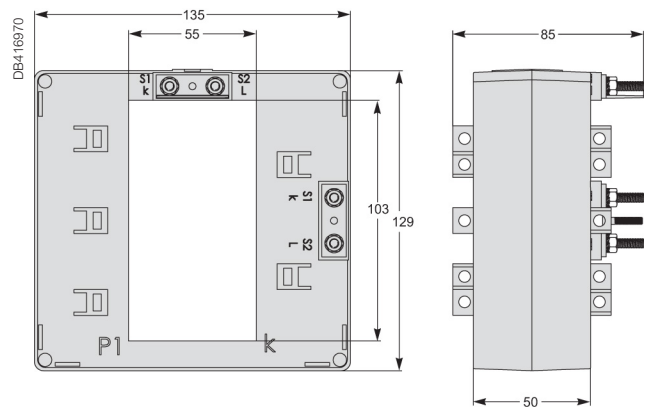


Solid core CT dimensions contd.

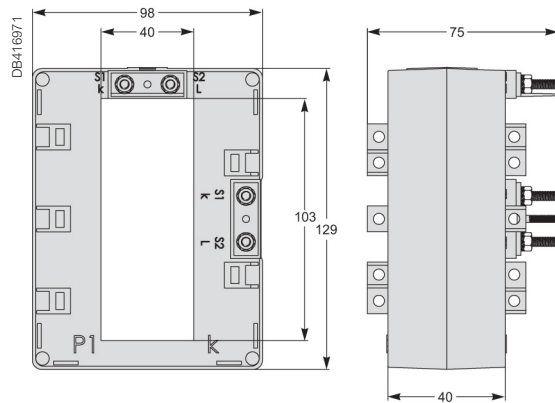
DD internal profile type



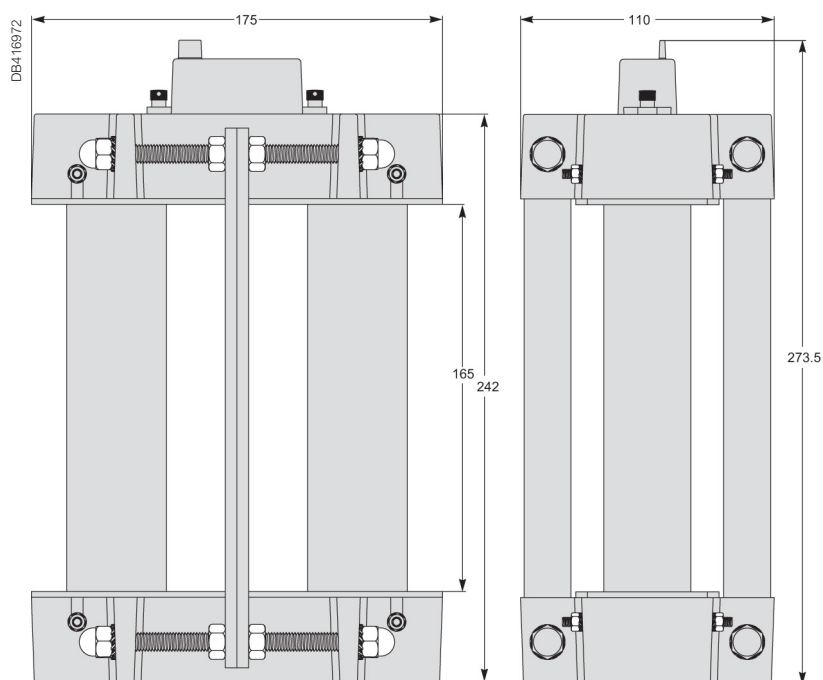
DE internal profile type



DH internal profile type



VV internal profile type

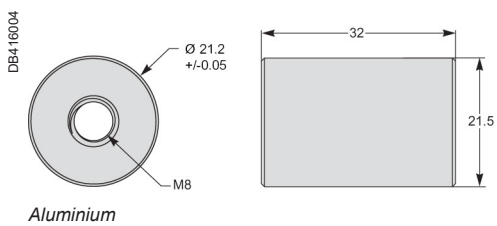


NOTE: This document is not intended to be used as an installation guide.

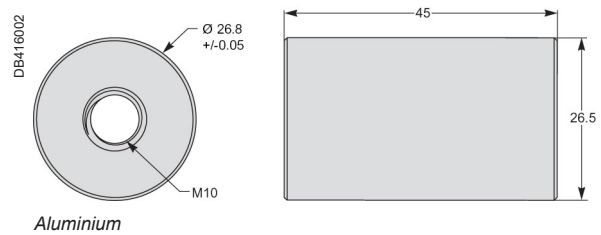
Solid core cylinders dimensions

Cylinders

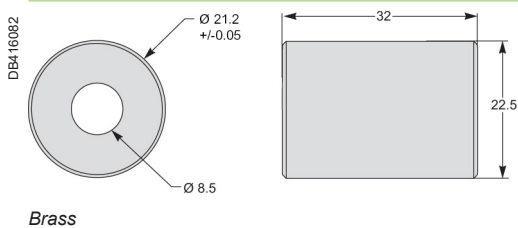
METSECT5CYL1



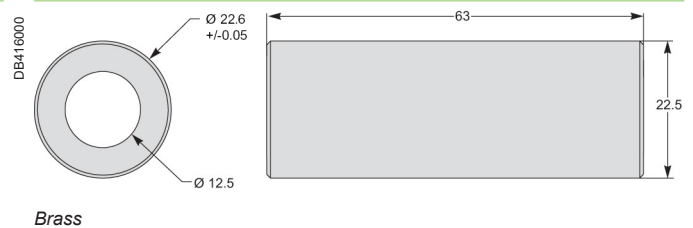
METSECT5CYL2



16550

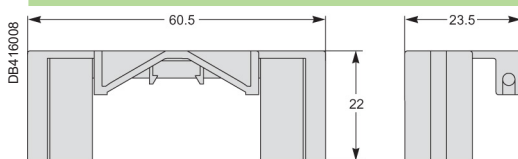


16551



Covers

METSECT5COVER



Split core CTs

 **⚠ DANGER**

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E in the USA, CSA Z462 or applicable local standards.
- Turn off all power supplying this device and the equipment in which it is installed before working on the device or equipment.
- Always use a properly rated voltage sensing device to confirm that all power is off.
- Treat I/O wiring connected to multiple devices as hazardous live until determined otherwise.
- Do not exceed the device's ratings for maximum limits.
- Do not use this device for critical control or protection applications where human or equipment safety relies on the operation of the control circuit.
- Disconnect all the device's input and output wires before performing dielectric (hi-pot) or Megger testing.

CT DAMAGE

- Never open circuit a current transformer (CT)
- Do not open the CT case.
- Do not attempt to repair any components of the CT.

Failure to follow these instructions will result in death or serious injury.

Hazard Label

Common characteristics	Cable CT	Bus Bar CT
Secondary current Is (A)	5 A	5 A
Maximum voltage rating Ue (V)	720 V	720 V
Frequency (Hz)	50/60 Hz	50/60 Hz
Safety factor (sf)	up to 1000 A: sf ≤ 5 greater than 1000 A: sf ≤ 10	up to 1500 A: sf ≤ 5 greater than 1500 A: sf ≤ 10
Degree of protection	IP20	IP20
Operating temperature	-5°C to +50°C relative humidity 5-85 %	-5°C to +40°C relative humidity 5-85 %
Storage temperature	-25°C to +70°C	-25°C to +70°C
Compliance with standards	IEC 61869-1 IEC 61869-2	IEC 61869-1 IEC 61869-2
Secondary connection (as per model)	by terminals for lug by tunnel terminals by screws	by terminals for lug by tunnel terminals by screws

Split core CT		
CT internal	Type H	Type G
	FFC  HA HD HG HJ HP FFHM  HM	FFV2  GA GD GG GJ

Split core CTs

PB119862



METSECT5GA●●●

PB119864



METSECT5GD●●●

PB119866



METSECT5GG●●●

PB119868



METSECT5GJ●●●

Type G - split core current transformers (bus bar)

	Accuracy class			CT window	Rating	Commercial
	Max power (VA)		dimension (mm)	Ip/5A (A)	Reference no.	
	0.5	1	3			
GA						
	-	-	1.25	23 x 33	100	METSECT5GA010
	-	-	1.5		150	METSECT5GA015
	-	-	2.5		200	METSECT5GA020
	-	1.5	-		250	METSECT5GA025
	-	3.75	-		300	METSECT5GA030
	1	-	-		400	METSECT5GA040
GD						
	-	1.5	-	55 x 85	250	METSECT5GD025
	-	2.5	-		300	METSECT5GD030
	1	-	-		400	METSECT5GD040
	2.5	-	-		500	METSECT5GD050
	2.5	-	-		600	METSECT5GD060
	2.5	-	-		750	METSECT5GD075
	2.5	-	-		800	METSECT5GD080
	5	-	-		1000	METSECT5GD100
GG						
	-	1.5	-	85 x 125	250	METSECT5GG025
	-	2.5	-		300	METSECT5GG030
	-	2.5	-		400	METSECT5GG040
	2.5	-	-		500	METSECT5GG050
	2.5	-	-		600	METSECT5GG060
	2.5	-	-		750	METSECT5GG075
	2.5	-	-		800	METSECT5GG080
	5	-	-		1000	METSECT5GG100
	5	-	-		1200	METSECT5GG120
	7.5	-	-		1250	METSECT5GG125
7.5	-	-	1500	METSECT5GG150		
GJ						
	10	-	-	85 x 165	1000	METSECT5GJ100
	10	-	-		1200	METSECT5GJ120
	10	-	-		1500	METSECT5GJ150
	10	-	-		1600	METSECT5GJ160
	10	-	-		2000	METSECT5GJ200
	10	-	-		2500	METSECT5GJ250
	15	-	-		3000	METSECT5GJ300
	15	-	-		4000	METSECT5GJ400

See your Schneider Electric representative for complete ordering information.

Split core CTs contd.

PB119870



METSECT5HA●●●

PB119872



METSECT5HD●●●

PB119874



METSECT5HG●●●

PB119876



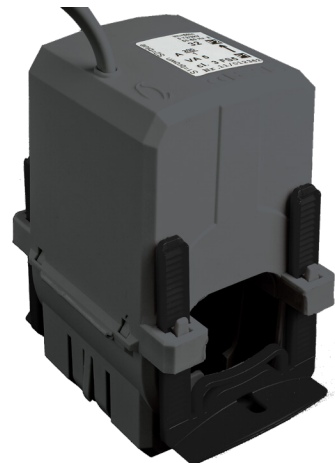
METSECT5HJ●●●

PB119878



METSECT5HM●●●

PB119880



METSECT5HP●●●

Type H - split core current transformers (cable)

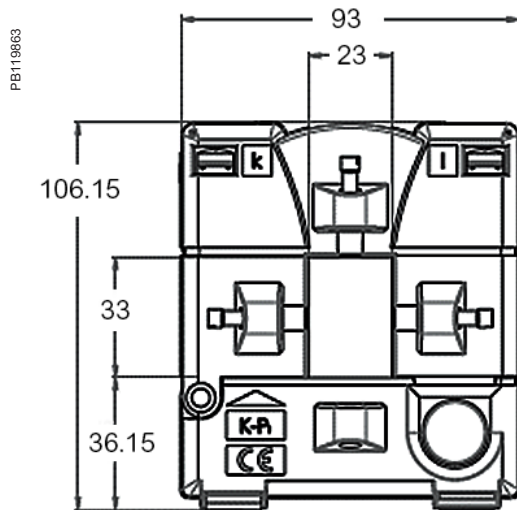
Accuracy class Max power (VA)				CT window dimension (mm)	Rating Ip/5A (A)	Commercial Reference no.
	0.5	1	3			
HA						
	-	1	-	18.4 x 19	150	METSECT5HA015
	-	1.5	-		150	METSECT5HA020
	1	-	-		250	METSECT5HA025
HD						
	-	1	-	27.9 x 27	250	METSECT5HD025
	-	1.5	-		300	METSECT5HD030
	-	2.5	-		400	METSECT5HD040
	1	-	-		500	METSECT5HD050
HG						
	-	-	1.5	Ø32.5	100	METSECT5HG010
	-	-	2.5		125	METSECT5HG013
	-	-	3		150	METSECT5HG015
	-	-	3		200	METSECT5HG020
	-	-	3		250	METSECT5HG025
	-	2.5	-		300	METSECT5HG030
	-	5	-		400	METSECT5HG040
	-	5	-		500	METSECT5HG050
	-	5	-		600	METSECT5HG060
HJ						
	-	2.5	-	42.4 x 43	300	METSECT5HJ030
	-	5	-		400	METSECT5HJ040
	-	5	-		500	METSECT5HJ050
	2.5	-	-		600	METSECT5HJ060
	2.5	-	-		750	METSECT5HJ075
	2.5	-	-		800	METSECT5HJ080
HM						
	-	2.5	-	42.4 x 85	300	METSECT5HM030
	-	5	-		400	METSECT5HM040
	-	5	-		500	METSECT5HM050
	2.5	-	-		600	METSECT5HM060
	2.5	-	-		750	METSECT5HM075
	2.5	-	-		800	METSECT5HM080
HP						
	-	1.5	-	Ø44	250	METSECT5HP025
	-	2.5	-		300	METSECT5HP030
	-	5	-		400	METSECT5HP040
	-	5	-		500	METSECT5HP050
	-	5	-		600	METSECT5HP060
	-	5	-		750	METSECT5HP075
	-	5	-		800	METSECT5HP080
	-	5	-		1000	METSECT5HP100

See your Schneider Electric representative for complete ordering information.

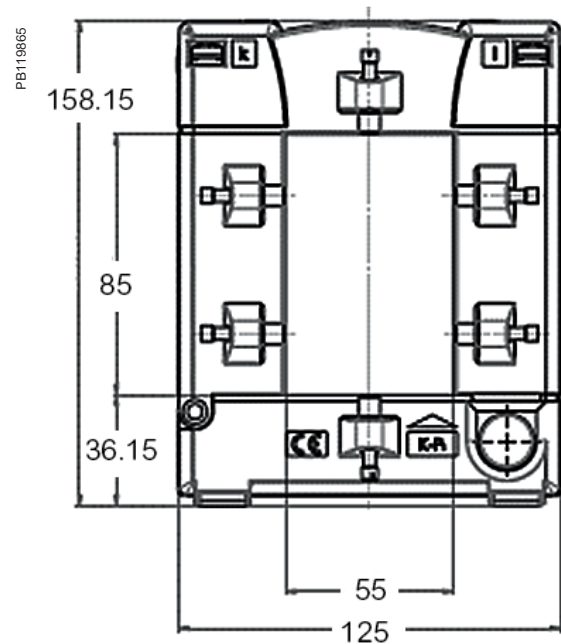
Split core CT dimensions

Gx products

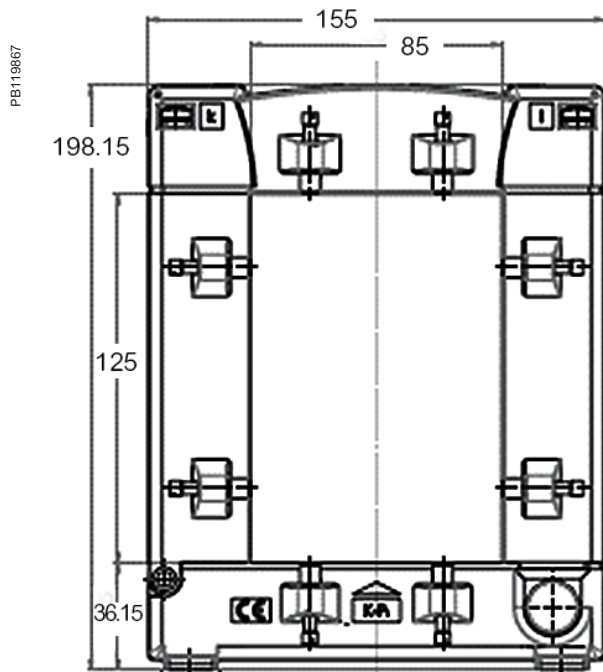
GA Dimensions



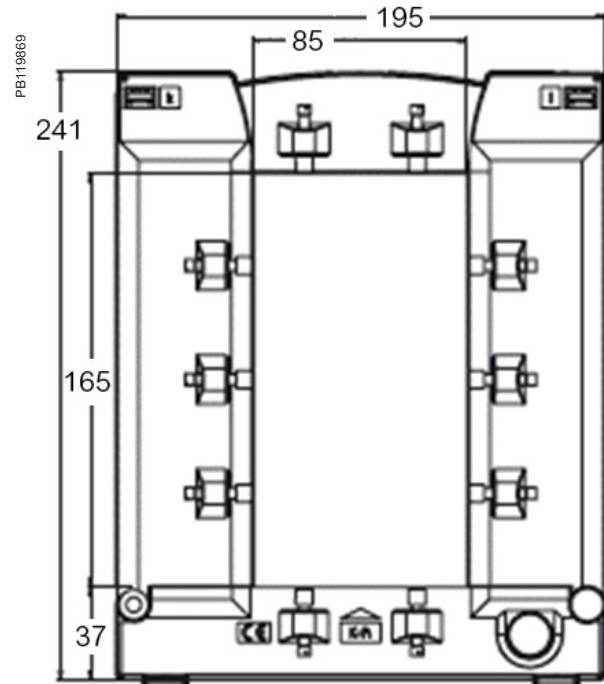
GD Dimensions



GG Dimensions



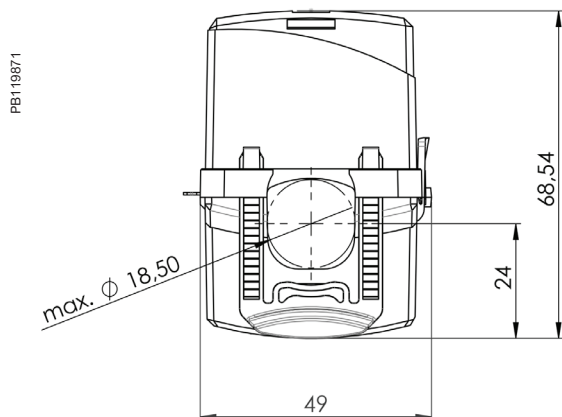
GJ Dimensions



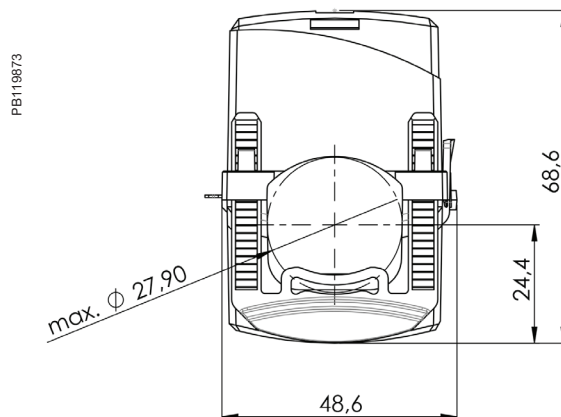
Split core CT dimensions contd.

Hx products

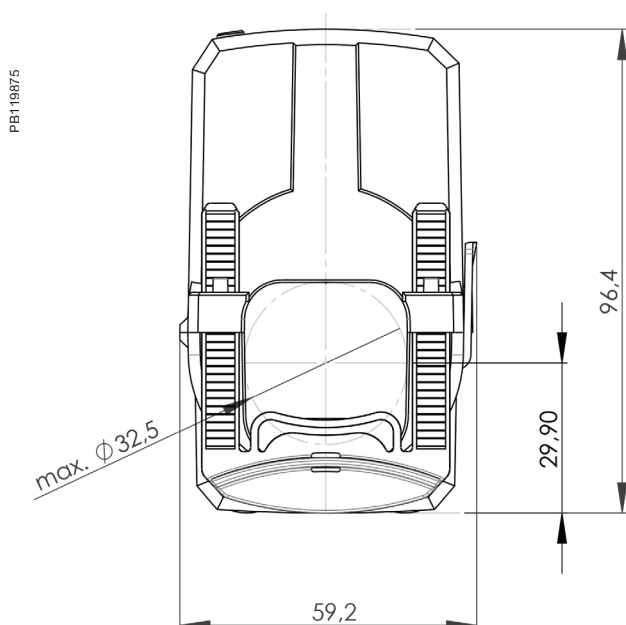
HA Dimensions



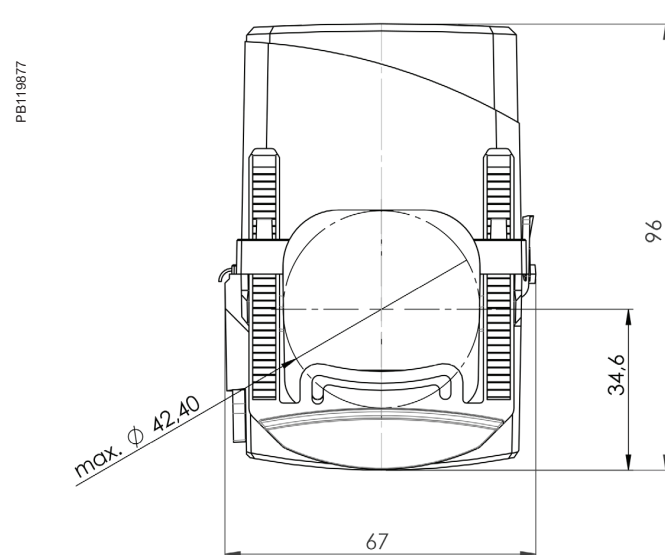
HD Dimensions



HG Dimensions

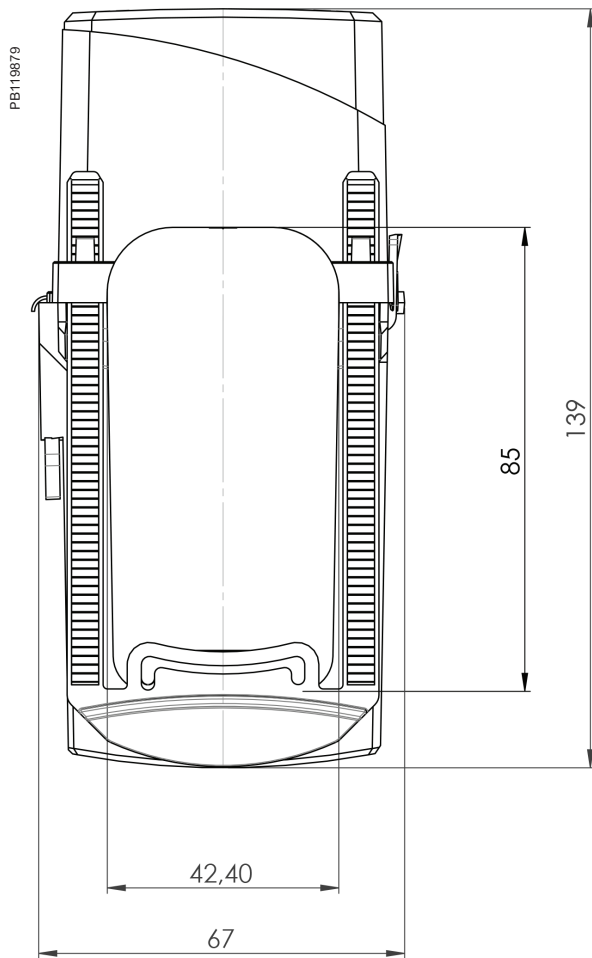


HJ Dimensions



Split core CT dimensions contd.

HM Dimensions



HP Dimensions

