

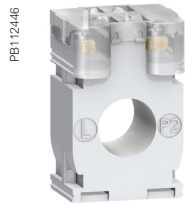
PowerLogic™ Current Transformers (CT)

Technical Datasheet

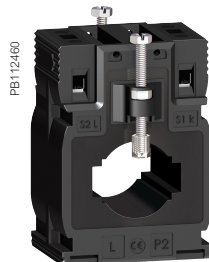
5A Solid and Split core

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.

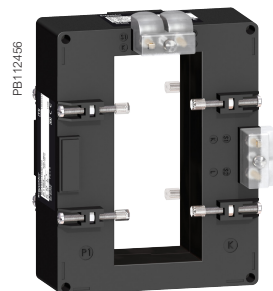
Solid core CTs



METSECT5CCxxx



METSECT5MAxxx



METSECT5DCxxx



METSECT5VVxxx

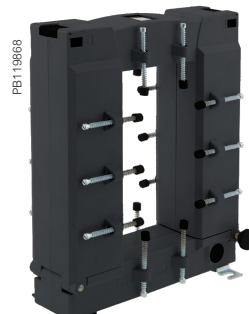
Split core CTs



METSECT5HAxxx



METSECT5GAxxx



METSECT5GJxxx



METSECT5HJxxx

Solid Core CTs

These current transformers from Schneider Electric are a comprehensive offer, ideally suited throughout the entire low voltage network, from 40 A to 6000 A. They deliver secondary current (0-5 A) proportional to the current measured at the primary. They can be used in combination with measurement devices (switchboard instrumentation, Ammeters, kilowatt-hour meters, power-monitoring units, control relays etc.). CTs with low VA burden allows them to be used in combination of measurement equipments.

The solution for

- Perfect for new and existing installations and expansion projects in a variety of markets:
- Commercial buildings
- Industrial facilities
- Medical facilities
- Data centers
- Education
- Oil & Gas

Benefits

- Safety: sealable insulating cover
- Installation: on symmetrical DIN rail, on mounting plate, on busbar
- Well adapted CT as the accuracy class is better than rated accuracy
- Multiple secondary terminal options for different mounting profile
- Current Transformers for coaxial cable
- Current Transformers for vertical or horizontal bar
- Current Transformers for cable or bar profile
- Compact size suitable for different sizes of conductors
- Tropicalized rating for harsh environmental condition
- Adaptable for different conductor profile and primary current intensity

Features

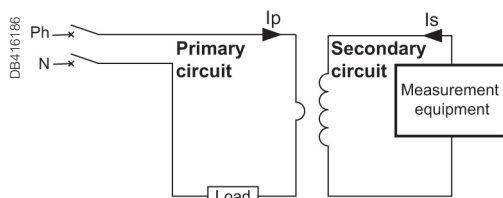
- A broad selection of ratings: from 40 A to 6000 A I_p with 120% max. range
- Fully compatible with Schneider Electric's complete portfolio of industry leading metering products as well as Third Party measurement devices.
- Safety through sealable insulating cover
- Compliance with IEC measurement standards with accuracy class ranges from Class 0.5 to Class 3
- Higher safety factor during installation and for facility
- For indoor use

Conformity of standards

- BS / EN 61869-1:2009
- BS / EN 61869-2:2012
- BS / EN 63000:2018
- VDE 0414
- Green Premium Ecolabel
- CE / UKCA certified
- EAC, Metrology

$I_p/5$ A ratio

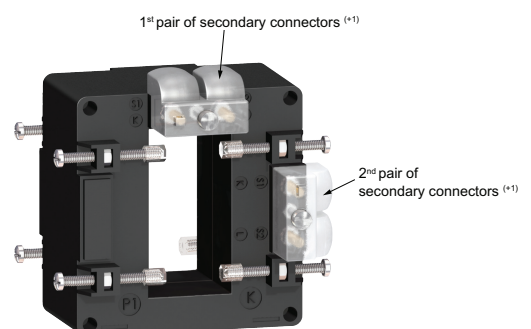
When the primary is energized, the measurement equipment nearly acts as a short circuit which keeps the secondary voltage very low. This voltage will increase significantly if the short circuit is removed. Hence, always keep the secondary circuit connected to low impedance path or current signal terminals of the measuring instrument.



Application diagram of a CT.

I_p - Primary Current
 I_s - Secondary Current

CTs with multi secondary output



(*) Two pairs of secondary connectors are provided (parallel internal wiring - only one secondary winding) for easier cable access. 1 lateral + 1 on one extremity.

Hence, only one pair of secondary connectors must be used at a time.

Solid Core CTs

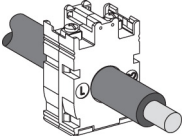
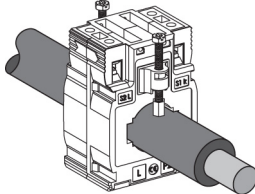
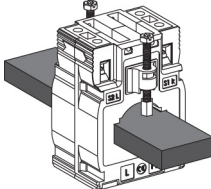
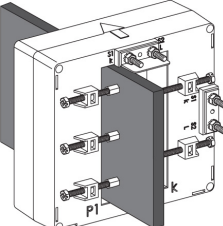
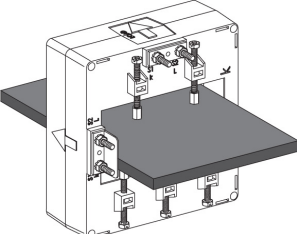
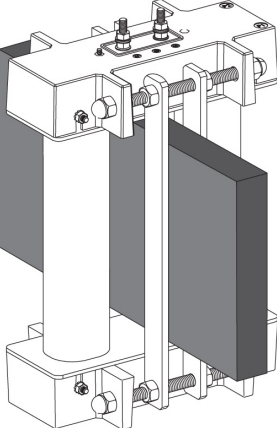
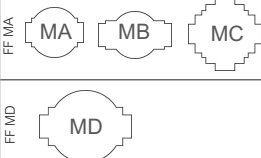
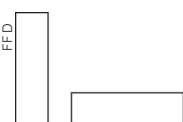
CT selection - conductor rating aspects

- The choice depends on the conductor profile and the maximum intensity of the primary circuit.
- CTs are available in different form factors and sizes to meet varied applications

Primary current can be measured in two ways:

- CT with let-through primary
- CT with connection of primary by screws and nuts

CT with let-through primary

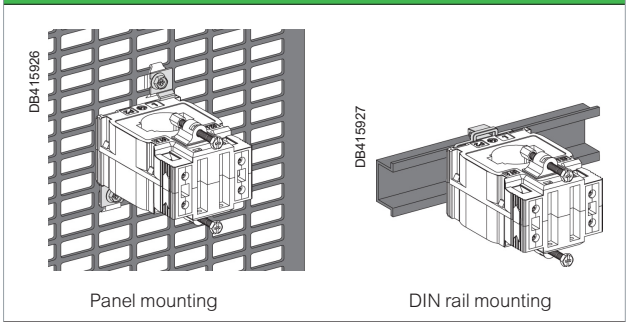
Conductor type	Cable	Mixed, bars or cables	Vertical or horizontal bars	Vertical bars
Suggested Current Transformer and mounting		 	 	
Ratings (A)	40 to 250	150 to 800	400 to 4000	5000 to 6000
CT internal	Type C	Type M	Type D ⁽⁺⁾	Type V
				

(+)

 Two pairs of secondary connectors are provided (parallel internal wiring - only one secondary winding) for easier cable access. 1 lateral + 1 on one extremity. Hence, only one pair of secondary connectors must be used at a time.

Mounting method

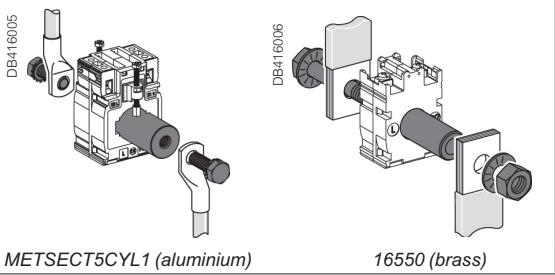
CT Mounting



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)



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

CT selection criterion - Electrical aspect of $I_p/5 A$

- We recommend that you choose the ratio immediately higher than the maximum load current.
Example: Maximum load current = 1103 A; ratio chosen = 1250/5 ($I_p = 1250$ or $I_{nom} = 1250$).
- For lower ratings:** From 40/5 to 75/5 and for an application with digital devices, we recommend that you choose the next higher rating of I_p , for example 50/5 for 40/5, 60/5 for 50/5, and so on.
- 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)	Approximate Power burden at 20 °C (VA)	Schneider Electric make power monitoring device	Maximum VA burden at Nominal current (secondary) input (VA)
1	1	Analog Ammeter, form factor 72 x 72 mm / 96 x 96 mm	1.1
1.5	0.685	Digital ammeter	0.3
2.5	0.41	PM8000	0.15
4	0.254	PM3000 / iEM3200	0.3
6	0.169	PM5000 / PM2000	0.15
10	0.0975	PM / EM1000H / EM64xxH	0.15
16	0.062		

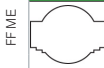
For each temperature variation per 10 °C bracket, the power drawn up by the cables increases by 4 %.

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 maximum VA burden is 7 VA (for "Accuracy class 1" which is specified in the project).

Internal profile type	Cables (mm)	Bars (mm)	Rating $I_p/5 A$ (A)	Commercial reference number	Accuracy class		
					0.5	1	3
					Max. power (VA)		
	Ø27	10 x 32 15 x 25	150	METSECT5MA015	3	4	-
			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 m length of 2.5 mm² cable: 0.41 x 4 = 1.64 VA.

Calculated burden: 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.

Typical limits of current error and phase displacement error for measuring current transformers (classes from 0.1 to 1)

Accuracy Class	± Percentage current (ratio) error at percentage of rated current shown below				± Phase displacement at percentage of rated current as shown below							
					Minutes				Centiradians			
	5	20	100	120	5	20	100	120	5	20	100	120
0.1	0.4	0.2	0.1	0.1	15	8	5	5	0.45	0.24	0.15	0.15
0.2	0.75	0.35	0.2	0.2	30	15	10	10	0.9	0.45	0.3	0.3
0.5	1.5	0.75	0.5	0.5	90	45	30	30	2.7	1.35	0.9	0.9
1.0	3.0	1.5	1.0	1.0	180	90	60	60	5.4	2.7	1.8	1.8

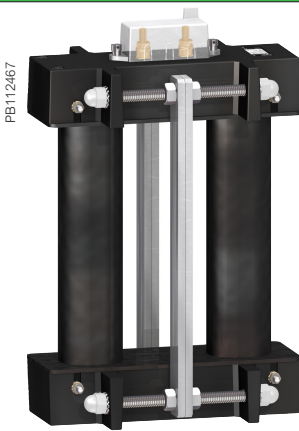
Solid Core CTs

Type C



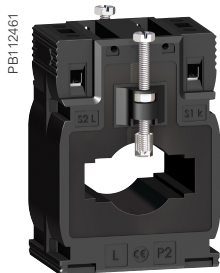
METSECT5CCxxx

Type V

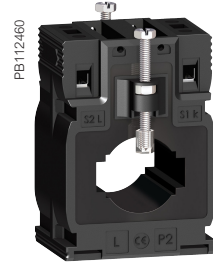


METSECT5VVxxx

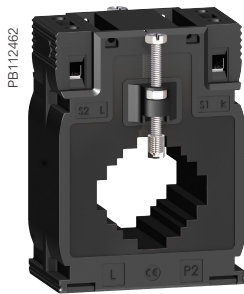
Type M



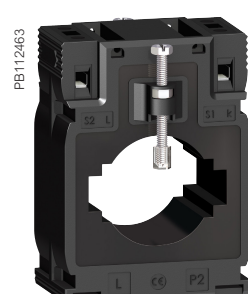
METSECT5MBxxx



METSECT5MAxxx



METSECT5MCxxx

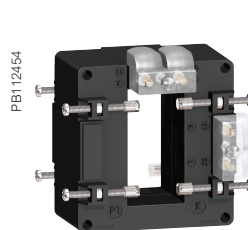


METSECT5MDxxx

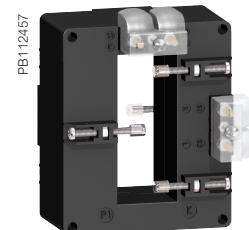
General characteristics

Secondary current Is (A)	5 A (S1- S2 terminals, multiple secondary terminal options for different mounting profile)
Maximum voltage rating Ue (V)	720 V
Dielectric strength test	3 kV, 50 Hz for one minute
Frequency (Hz)	50/60 Hz nominal (47 - 63 Hz)
Instrument security/ safety factor (FS/sf)	40 to 4000 A: FS ≤ 5 5000 to 6000 A: FS ≤ 10
Rated short time thermal current (I _{th})	60 times the I _p current for 1 s (max 60 kA)
Rated dynamic current (I _{dyn})	2.5 I _{th}
Degree of protection	IP20
Operating temperature	Tropicalised range: -25 to 60 °C (for I _p upto 1000 A), -25 to 50 °C (for I _p 1250 A up to 6000A) Relative humidity - 5 % to 95 %
Storage temperature	-40°C to +85°C
Compliance with standards	BS / EN 61869-1:2009, BS / EN 61869-2:2012, BS / EN 63000:2018 VDE 0414
Secondary connection (as per model)	by terminals for lug or by tunnel terminals or by screws
Pollution degree	2
Installation category	III
Insulation class	B
Altitude	≤ 3000 m (9843 ft)

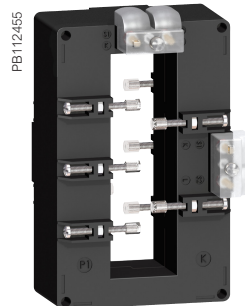
Type D



METSECT5DAxxx



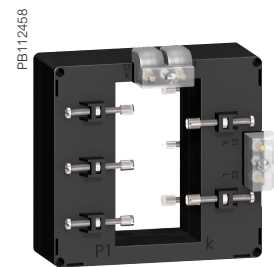
METSECT5DDxxx



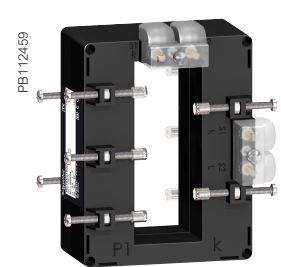
METSECT5DBxxx



METSECT5DCxxx



METSECT5DExxx



METSECT5DHxxx

Solid Core CTs

Representation of commercial reference numbers for CTs

MET SE CT X XX XXX

1 = 1 Amp
5 = 5 Amp
R = Rogowski

2 letters = Form Factor

Last 3 digits = Primary rating/10
(Rounded off to next digit)

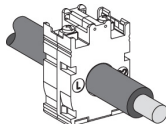
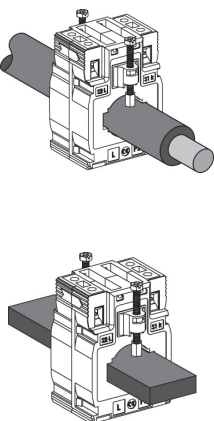
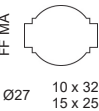
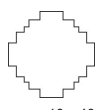
Examples:

Solid core
METSECT5CC008
CT - Current transformer
5 - 5 A CT secondary
CC - Form factor suitable for Coaxial cable (round) only
008 - 75 A primary rating, divide by 10

Split core
METSECT5GA020
CT - Current transformer
5 - 5 A CT secondary
GA - Form factor suitable for bus bars of max. size 23 x 33 mm
020 - 200 A primary rating, divide by 10

Rogowski coil
METSECTR30500
CT - Current transformer
R - Rogowski coil
30 - 300 mm coil length
500 - Primary current 5000 A, multiply by 10

Commercial reference scheme

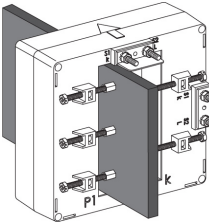
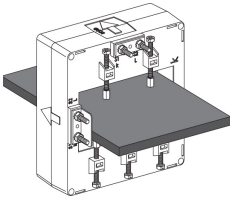
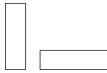
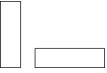
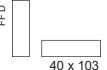
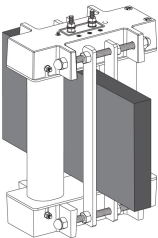
CT with let-through primary	CT internal type	Internal profile type and dimension in mm	Fastening mode	Ip/5 A rating (A) ^(*)	Accuracy class VA rating			CT Commercial reference	Accessories commercial reference			
					0.5	1	3		Cylinder	Sealable cover		
Type C - solid-core CT (cable profile)												
	CC		• Adapter for DIN rails • Mounting plate	40	-	-	1	METSECT5CC004	METSECT5CYL1	Included		
				50	-	1.25	1.5	METSECT5CC005				
				60	-	1.25	2	METSECT5CC006				
				75	-	1.5	2.5	METSECT5CC008				
				100	2	2.5	3.5	METSECT5CC010				
				125	2.5	3.5	4	METSECT5CC013				
				150	3	4	5	METSECT5CC015				
				200	4	5.5	6	METSECT5CC020				
				250	5	6	7	METSECT5CC025				
Type M - solid-core CT (mixed: cable/bar profile)												
	MB		• Adapter for DIN rails • Mounting plate	250	3	4	-	METSECT5MB025	-	METSECT5COVER		
				300	4	6	-	METSECT5MB030				
				400	6	8	-	METSECT5MB040				
	MA			150	3	5	-	METSECT5MA015	METSECT5CYL2	METSECT5COVER		
				200	4	7	-	METSECT5MA020				
				250	6	8	-	METSECT5MA025				
				300	8	10	-	METSECT5MA030				
	MC			400	10	12	-	METSECT5MA040	-	METSECT5COVER		
				250	3	5	-	METSECT5MC025				
				300	5	8	-	METSECT5MC030				
				400	8	10	-	METSECT5MC040				
	MD			500	10	12	-	METSECT5MC050	-	METSECT5COVER		
				600	12	15	-	METSECT5MC060				
				800	10	12	-	METSECT5MC080				
						500	4	6	-	METSECT5MD050	-	METSECT5COVER
						600	6	8	-	METSECT5MD060		
						800	10	12	-	METSECT5MD080		

(*) Maximum rated current (Imax) is 120% of the primary current (Ip).

Please contact your Schneider Electric representative for complete ordering information.

Solid Core CTs

Commercial reference scheme (contd.)

CT with let-through primary	CT internal type	Internal profile type and dimension in mm	Fastening mode	Ip/5 A rating (A) ⁽⁺¹⁾	Accuracy class VA rating			CT Commercial reference	Accessories commercial reference	
					0.5	1	3		Cylinder	Sealable cover
Type D ⁽⁺²⁾ - solid-core CT (vertical or horizontal bar - dual secondary terminals)										
DB415988  DB415987 	DA	FFD  32 x 65	Insulated locking screw	400	4	8	-	METSECT5DA040	-	Included
				500	8	10	-	METSECT5DA050		
				600	8	12	-	METSECT5DA060		
				800	12	15	-	METSECT5DA080		
				1000	15	20	-	METSECT5DA100		
				1250	15	20	-	METSECT5DA125 ⁽⁺³⁾		
	DB	FFD  38 x 127	Insulated locking screw	1000	6	10	-	METSECT5DB100	-	Included
				1250	8	12	-	METSECT5DB125 ⁽⁺³⁾		
				1500	10	15	-	METSECT5DB150 ⁽⁺³⁾		
				2000	15	20	-	METSECT5DB200 ⁽⁺³⁾		
				2500	20	25	-	METSECT5DB250 ⁽⁺³⁾		
				3000	25	30	-	METSECT5DB300 ⁽⁺³⁾		
	DC	FFD  54 x 127	Insulated locking screw	2000	25	30	-	METSECT5DC200 ⁽⁺³⁾	-	Included
				2500	30	50	-	METSECT5DC250 ⁽⁺³⁾		
				3000	30	50	-	METSECT5DC300 ⁽⁺³⁾		
				4000	30	50	-	METSECT5DC400 ⁽⁺³⁾		
	DD	FFD  34 x 84	Insulated locking screw	1000	10	15	-	METSECT5DD100	-	Included
				1250	12	15	-	METSECT5DD125 ⁽⁺³⁾		
				1500	15	20	-	METSECT5DD150 ⁽⁺³⁾		
	DE	FFD  55 x 103	Insulated locking screw	1000	12	15	-	METSECT5DE100	-	Included
				1250	15	20	-	METSECT5DE125 ⁽⁺³⁾		
				1500	20	25	-	METSECT5DE150 ⁽⁺³⁾		
				2000	20	25	-	METSECT5DE200 ⁽⁺³⁾		
	DH	FFD  40 x 103	Insulated locking screw	1250	12	15	-	METSECT5DH125 ⁽⁺³⁾	-	Included
				1500	12	15	-	METSECT5DH150 ⁽⁺³⁾		
				2000	20	25	-	METSECT5DH200 ⁽⁺³⁾		
Type V - solid-core CT (vertical bar profile)										
DB415989 	VV	FF V2  55 x 165	Insulated locking screw	5000	60	-	-	METSECT5VV500 ⁽⁺³⁾	-	Included
				6000	70	-	-	METSECT5VV600 ⁽⁺³⁾		

⁽⁺¹⁾ Maximum rated current (Imax) is 120% of the primary current (Ip).

⁽⁺²⁾ Two pairs of secondary connectors are provided (parallel internal wiring - only one secondary winding) for easier cable access. One lateral and one on extremity. Hence, only one pair of secondary connector must be used at a time.

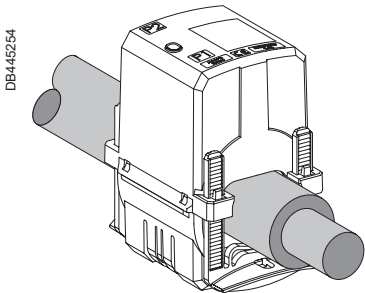
⁽⁺³⁾ Operating temperature: -25 to +50 °C (-13 to +122 °F)

Please contact your Schneider Electric representative for complete ordering information.

Split Core CTs

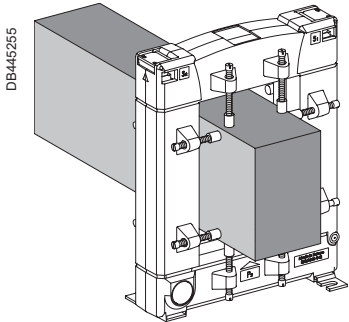
Mounting method

CT Mounting



DB445254

Type H



DB445255

Type G

General characteristics	
Secondary current Is (A)	5 A (S1- S2 terminals)
Maximum voltage rating Ue (V)	720 V
Dielectric strength test	3 kV, 50 Hz for one minute
Frequency (Hz)	50/60 Hz nominal (47 - 63 Hz)
Instrument security/ safety factor (FS/sf)	upto 1000 A: FS ≤ 5 ≥ 1000 A: FS ≤ 10
Rated short time thermal current (Ith)	60 times the Ip current for 1 s (max 60 kA)
Rated dynamic current (Idyn)	2.5 Ith
Degree of protection	IP20
Operating temperature	Tropicalised range: -5 to +60 °C Relative humidity: 5 % to 85 %
Storage temperature	-25°C to +70°C
Compliance with standards	BS / EN 61869-1:2009, BS / EN 61869-2:2012, BS / EN 63000:2018 VDE 0414
Secondary connection (as per model)	by terminals for lug or by tunnel terminals or by screws
Pollution degree	2
Installation category	III
Insulation class	E
Altitude	≤ 3000 m (9843 ft)

Type H



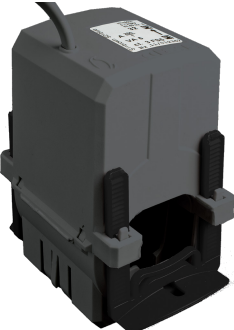
PB119872

METSECT5HAxxx



PB119872

METSECT5HDxxx



PB119874

METSECT5HGxxx



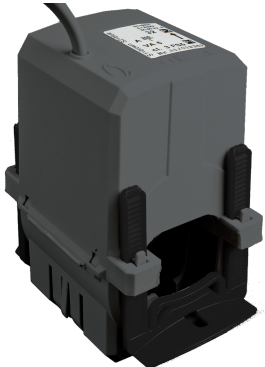
PB119876

METSECT5HJxxx



PB119878

METSECT5HMxxx



PB119874

METSECT5HPxxx

Split Core CTs

Type G



METSECT5GAxxx



METSECT5GDxxx



METSECT5GGxxx



METSECT5GJxxx

Commercial reference scheme

CT with let-through primary		CT internal type	Internal profile type and dimension in mm	Ip/5 A rating (A) ⁽⁺¹⁾	Accuracy class VA rating			CT Commercial reference
					0.5	1	3	
Type G - split core CT (bus bar)								
PB119862 	GA	FF V2  23 x 33	100	-	-	1.25	METSECT5GA010	
			150	-	-	1.5	METSECT5GA015	
			200	-	-	2.5	METSECT5GA020	
			250	-	1.5	-	METSECT5GA025	
			300	-	3.75	-	METSECT5GA030	
			400	1	-	-	METSECT5GA040	
PB119864 	GD	FF V2  55 x 85	250	-	1.5	-	METSECT5GD025	
			300	-	2.5	-	METSECT5GD030	
			400	1	-	-	METSECT5GD040	
			500	2.5	-	-	METSECT5GD050	
			600	2.5	-	-	METSECT5GD060	
			750	2.5	-	-	METSECT5GD075	
			800	2.5	-	-	METSECT5GD080	
			1000	5	-	-	METSECT5GD100	
PB119866 	GG	FF V2  85 x 125	250	-	1.5	-	METSECT5GG025	
			300	-	2.5	-	METSECT5GG030	
			400	-	2.5	-	METSECT5GG040	
			500	2.5	-	-	METSECT5GG050	
			600	2.5	-	-	METSECT5GG060	
			750	2.5	-	-	METSECT5GG075	
			800	2.5	-	-	METSECT5GG080	
			1000	5	-	-	METSECT5GG100	
			1200	5	-	-	METSECT5GG120	
			1250	7.5	-	-	METSECT5GG125	
1500	7.5	-	-	METSECT5GG150				
PB119868 	GJ	FF V2  85 x 165	1000	10	-	-	METSECT5GJ100	
			1200	10	-	-	METSECT5GJ120	
			1500	10	-	-	METSECT5GJ150	
			1600	10	-	-	METSECT5GJ160	
			2000	10	-	-	METSECT5GJ200	
			2500	10	-	-	METSECT5GJ250	
			3000	15	-	-	METSECT5GJ300	
			4000	15	-	-	METSECT5GJ400	

(*) Maximum rated current (Imax) is 120% of the primary current (Ip).

Split Core CTs

Commercial reference scheme (contd.)

CT with let-through primary		CT internal type	Internal profile type and dimension in mm	Ip/5 A rating (A) ^(*)	Accuracy class VA rating			CT Commercial reference
					0.5	1	3	
Type H - split core CT (cable)								
 PB119872	HA	 18.4 x 19	150	-	1	-	METSECT5HA015	
			200	-	1.5	-	METSECT5HA020	
			250	1	-	-	METSECT5HA025	
	HD	 27.9 x 27	250	-	1	-	METSECT5HD025	
			300	-	1.5	-	METSECT5HD030	
			400	-	2.5	-	METSECT5HD040	
			500	1	-	-	METSECT5HD050	
 PB119874	HG	 Ø32.5	100	-	-	1.5	METSECT5HG010	
			125	-	-	2.5	METSECT5HG013	
			150	-	-	3	METSECT5HG015	
			200	-	-	3	METSECT5HG020	
			250	-	-	3	METSECT5HG025	
			300	-	2.5	-	METSECT5HG030	
			400	-	5	-	METSECT5HG040	
			500	-	5	-	METSECT5HG050	
			600	-	5	-	METSECT5HG060	
 PB119876	HJ	 42.4 x 43	300	-	2.5	-	METSECT5HJ030	
			400	-	5	-	METSECT5HJ040	
			500	-	5	-	METSECT5HJ050	
			600	2.5	-	-	METSECT5HJ060	
			750	2.5	-	-	METSECT5HJ075	
			800	2.5	-	-	METSECT5HJ080	
 PB119878	HM	 42.4 x 85	300	-	2.5	-	METSECT5HM030	
			400	-	5	-	METSECT5HM040	
			500	-	5	-	METSECT5HM050	
			600	2.5	-	-	METSECT5HM060	
			750	2.5	-	-	METSECT5HM075	
			800	2.5	-	-	METSECT5HM080	
 PB119874	HP	 Ø44	250	-	1.5	-	METSECT5HP025	
			300	-	2.5	-	METSECT5HP030	
			400	-	5	-	METSECT5HP040	
			500	-	5	-	METSECT5HP050	
			600	-	5	-	METSECT5HP060	
			750	-	5	-	METSECT5HP075	
			800	-	5	-	METSECT5HP080	
			1000	-	5	-	METSECT5HP100	

* Maximum rated current (Imax) is 120% of the primary current (Ip).

Please contact your Schneider Electric representative for complete ordering information.