General characteristics

RM6 is an indoor gas-insulated switchgear up to 24kV for secondary distribution networks.

PM107098

RM6 meets the definition of a "sealed pressure system" as laid out by the IEC standard.

RM6 is made up of the following elements:

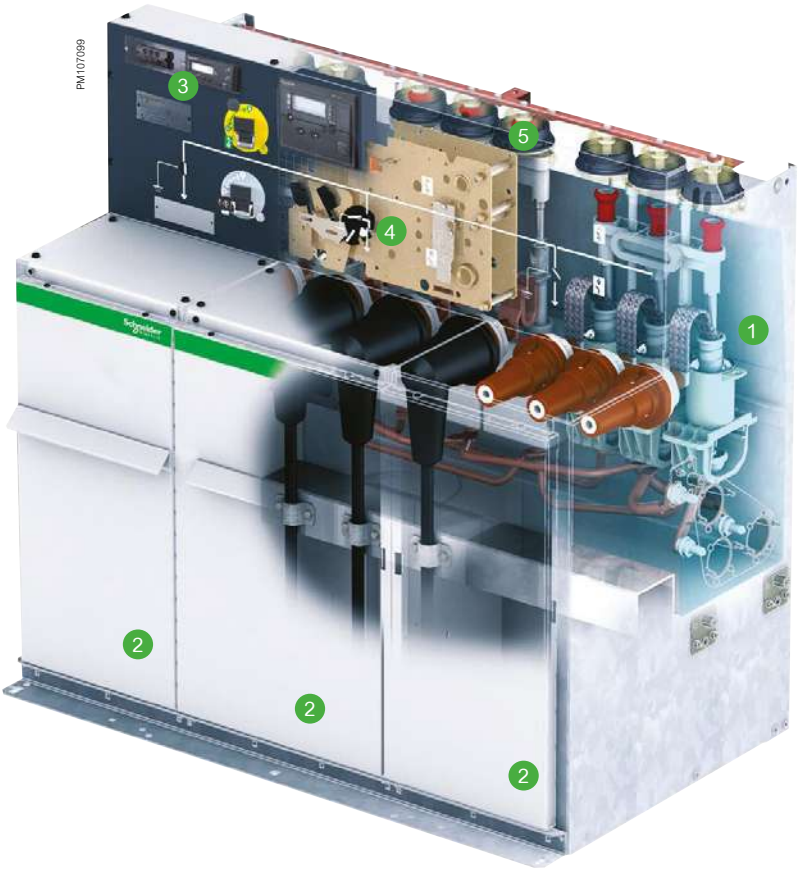
1. A stainless steel tank filled with SF6 gas (at 0.23 bar relative pressure), sealed for life and containing the busbar and all live switching components such as the switch disconnector, the earthing switch, the fuse switch combination or the circuit breaker
2. One to four (five optional) cable compartments with interfaces to connect to the network or the transformer
3. User interface with single line diagram, actuators and LV components
4. Manual or motorized operating mechanism compartments
5. Earthing circuit with visible earthing contacts

Electrical characteristics

Rated voltage		Ur	(kV)	12	17.5	24
Frequency		f	(Hz)		50 or 60	
Insulation level						
Industrial frequency 50 Hz 1 mn	Insulation (1)	Ud	(kV rms)	28	38	50
	Isolation (2)	Ud	(kV rms)	32	45	60
Impulse 50/1.2 µs	Insulation (1)	Up	(kV peak)	75	95	125
	Isolation (2)	Up	(kV peak)	85	110	145
Tank internal arc withstand				**u** 20 kA (1 sec)		
Seismic Withstand	Severity class 2, acceptance class 2 as per IEC2013) 210-62271)					
Vibration Withstand	NF EN2008) 60068.2.6.2) (3)					

(1) Phase-to-phase, phase-to-earth
(2) Across the isolating distance
(3) Please contact Schneider Electric for details

PM107099



General characteristics

Complete board configuration table

Cubicle	Width (mm)	Depth (mm)	Height (mm)	Weight (kg)
NE-I	472	670	1142	135
NE-B	572	670	1142	135
NE-D	572	670	1142	135
DE-I	532	670	1142	135
DE-B	632	670	1142	135
DE-D	632	670	1142	135
DE-Q	632	670	1142	185
DE-Ic	632	670	1142	145
DE-Bc	632	670	1142	145
DE-Mt	1106	840	1142	420
DE-O	532	670	1142	135
LE-O	502	670	1142	135
RE-O	502	670	1142	135
NE-II	829	670	1142	155
NE-BI	829	670	1142	180
NE-DI	829	670	1142	180
NE-QI	829	670	1142	180
RE-II	859	670	1142	155
NE-III	1186	670	1142	240
NE-IBI	1186	670	1142	250
NE-IDI	1186	670	1142	240
NE-IQI	1186	670	1142	275
RE-III	1216	670	1142	240
RE-IBI	1216	670	1142	250
RE-IDI	1216	670	1142	240
RE-IQI	1216	670	1142	275
DE-III	1246	670	1142	240
DE-IBI	1246	670	1142	250
DE-IDI	1246	670	1142	240
DE-IQI	1246	670	1142	275
NE-IIII	1619	670	1142	320
NE-IIBI	1619	670	1142	330
NE-BIBI	1619	670	1142	340
NE-IIDI	1619	670	1142	330
NE-DIDI	1619	670	1142	340
NE-IIQI	1619	670	1142	355
NE-QIQI	1619	670	1142	390
RE-IIII	1649	670	1142	320
RE-IIBI	1649	670	1142	330
RE-IIDI	1649	670	1142	330
RE-BIBI	1649	670	1142	340
RE-DIDI	1649	670	1142	340
RE-IIQI	1649	670	1142	355
RE-QIQI	1649	670	1142	390
DE-IIII	1679	670	1142	320
DE-IIBI	1679	670	1142	330
DE-IIDI	1679	670	1142	330
DE-IIQI	1679	670	1142	355
NE-I_I_I(1)	2000	670	1142	450 to 530(2)
RE-/LE-I_I_I(1)	2030	670	1142	455 to 535(2)
DE-I_I_I(1)	2060	670	1142	460 to 540(2)

(5 (1 function tanks
(2) Weight depends on the choice of function

General characteristics

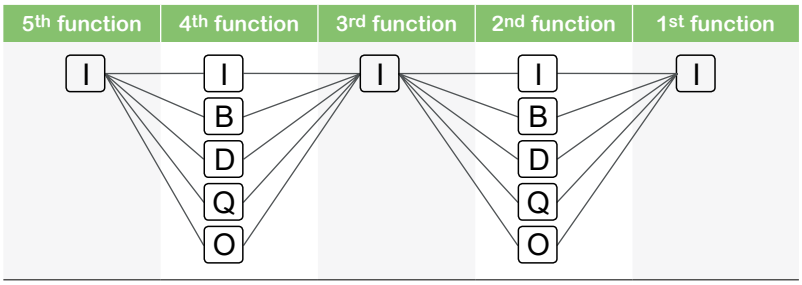
RM6 Flexibility

To further meet your installation requirements, RM6 also provides you with a higher configuration flexibility thanks to its 5 Functions range and its Free Combination range:

- Free choice of functions and options
- Compatible with standard RM6 offer in all extensibility types
- More economical than multiple single extension functions in line

5 Functions range

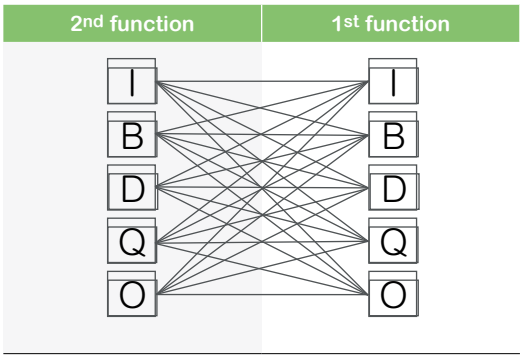
Possible combinations for RM6 five function tanks:



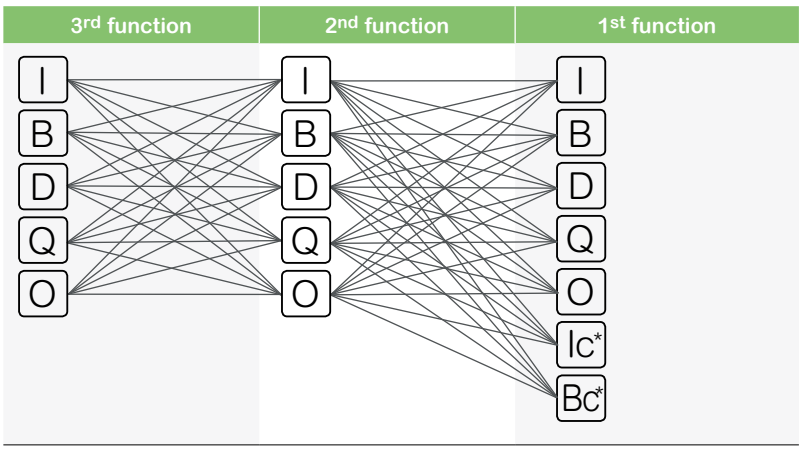
Free Combination range

700 possible combinations for RM2 6 or 3 function tanks.

Possible combinations of RM2 6 functions



Possible combinations of RM3 6 functions



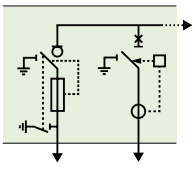
* Only possible when RM6 is RE or DE.

General characteristics

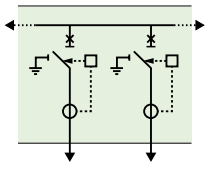
Examples

RM2 6 function combinations

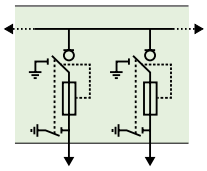
RE-QD



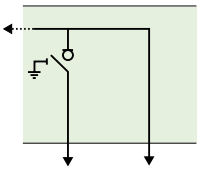
DE-DD



DE-QQ

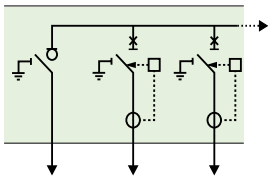


LE-IO

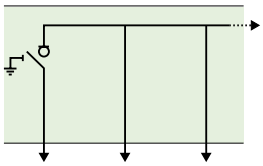


RM3 6 function combinations

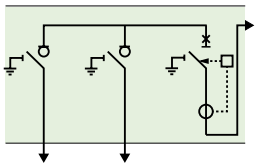
RE-IDD



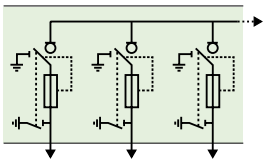
RE-IOO



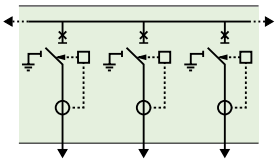
RE-IIBc



RE-QQQ



DE-BBD



General characteristics
Available functions

Basic unit characteristics																				
Rated voltage		(kV)	12	12	12	12	17.5	17.5	17.5	17.5	24	24	24	24	24	24	24	24	24	24
Short-time withstand current		(kA rms)	21	21	25	25	21	21	21	21	12.5	12.5	12.5	16	16	16	20	20	20	20
		Duration (s)	1	1	1	1	1	3	1	3	1	1	1	1	1	1	1	3	1	3
Rated current		(A)	200	630	200	630	200	200	630	630	200	400	630	200	400	630	200	200	630	630
Extensions	**Functions**																			
NE	I					p			p		p	p			p	p			p	
	D		p		p		p				p			p			p			
	P					p			p	p						p			p	
	QI				p		p	p			p			p			p			
	DI				p		p	p			p			p			p			
	PI					p			p	p						p			p	
	II					p			p			p			p	p			p	
	IQI			p		p			p	p		p			p	p			p	p
	IIQI			p		p			p	p		p			p	p			p	p
	QIQI			p		p			p	p		p			p	p			p	p
	IDI					p			p	p		p	p		p	p			p	p
	IIDI					p			p	p		p	p		p	p			p	p
	DIDI					p			p	p		p	p		p	p			p	p
	III					p			p	p		p			p	p			p	p
	IIII					p			p	p		p			p	p			p	p
RE	O				p	p		p		p				p		p	p		p	
	IQI			p		p			p	p		p			p	p			p	p
	IIQI			p		p			p	p		p			p	p			p	p
	QIQI			p		p			p	p		p			p	p			p	p
	IDI					p			p	p		p	p		p	p			p	p
	IIDI					p			p	p		p	p		p	p			p	p
	DIDI					p			p	p		p	p		p	p			p	p
	II					p				p		p			p	p			p	
	III					p			p	p		p			p	p			p	p
	IIII					p			p	p		p			p	p			p	p
LE	O				p	p		p		p				p		p	p		p	
DE	I					p			p	p		p			p	p			p	p
	PC					p				p						p			p	p
	IC					p				p						p			p	p
	O				p	p		p		p				p		p	p		p	
	Q		p		p		p	p			p			p			p	p		
	D				p		p	p			p			p			p	p		
	P					p			p	p						p			p	p
	IQI			p		p			p	p						p			p	p
	IIQI			p		p			p	p						p			p	p
	IDI					p			p	p			p			p			p	p
	IIDI					p			p	p			p			p			p	p
	III					p			p	p						p			p	p
	IIII					p			p	p						p			p	p
	Mt					p				p						p			p	p

N.B.: D and Q functions limited to 200 A

NE: non-extensible, RE: right-extensiblet, LE: left-extensible, DE: double-extensible.

All performances are available for RM6 Free Combination cubicles.

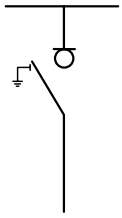
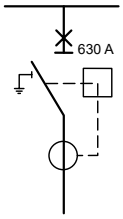
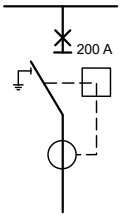
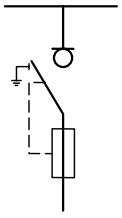
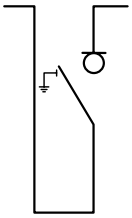
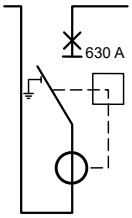
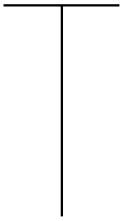
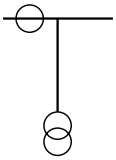
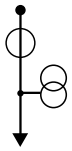
Functional overview
Choice of functional units

A wide choice of RM6 functions

RM6 benefits from a wide choice of MV functions enabling:

- The connection, power supply and protection of transformers on a radial or open-ring network via 200 A circuit breakers with an independent protection chain, or via combined fuse-switches
- The protection of lines by a 630 A circuit breaker
- MV Metering of private MV/LV substations.

The RM6 functions are described in the table below.

Function	Network switch	Line feeder	Transformer feeder		Network coupling		Cable connection	Busbar Metering	Feeder Metering
Functional unit	I	B	D	Q	IC	BC	O	Mt	AA-10
Device	630 A switch	630 A circuit breaker	200 A circuit breaker	Combined fuse-switch	Switch	630 A circuit breaker			
Single line diagrams									

Scalability of RM6

To support the evolution of your distribution network, RM6 can be extended with a range of functions making it a truly scalable system.

The addition of one or more functional units can be carried out by simply adding modules that are connected to each other via the busbar using dedicated field bushings.

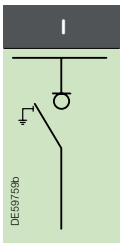
There are different types of extensible RM6:

- Right-extensible (-RE type)
- Left-extensible (-LE type)
- Extensible on both sides (-DE type)
- Non-extensible (-NE type)

Functional overview
I, Ic functions

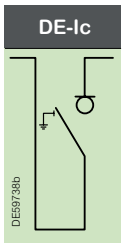
I function

- Network points with switch disconnector



DE-Ic function

- Bus coupler by switch disconnector



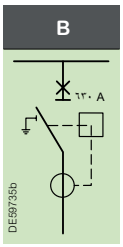
Rated voltage		Ur	kV	12	17.5	24			
Rated frequency		Fr	Hz	50 or 60	50 or 60	50 or 60			
Insulation level									
Industrial frequency 50Hz/1min	Phase-to-phase, phase-to-earth	Ud	kV rms	28	38	50			
	Across isolating distance	Ud	kV rms	32	45	60			
Lightning impulse withstand	Phase-to-phase, phase-to-earth	Up	kV peak	75	95	125			
	Across isolating distance	Up	kV peak	85	110	145			
Rated current		Ir	A	630	630	400	400	630	630
Rated current busbars		Ir	A	630	630	400	400	630	630
Rated peak current		Ip	kA	62.5	52.5	31.25	40	40	50
Short-time withstand current		It	kA rms	25	21	12.5	16	16	20
		tk	s	1	1 or 3	1	1	1	1 or 3
Breaking capacity	Active load	Iload	A	630	630	400	400	630	630
	Earth fault	Ief1	A	320	320	320	320	320	320
	Cable charging	Icc	A	110	110	110	110	110	110
Making capacity of switch and earthing switches		Ima	kA peak	62.5	52.5	31.25	40	40	50
Bushing (1)			Type	C	C	B or C	B or C	C	C
Mechanical endurance	Switch disconnector	M1	Number of openings	1000	1000	1000			
	Earthing switch	M0	Number of openings	1000	1000	1000			
Electrical endurance	Switch disconnector	E3	Number of CO at rated current	100	100	100			
			Number of short-circuit making operations	5	5	5	5	5	2
	Earthing switch	E2	Number of short-circuit making operations	5	5	5	5	5	2

(1) No bushing for IC function

Functional overview
B, D, BC functions

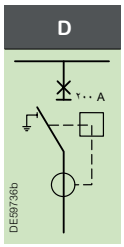
B function

- Network points with 630 A disconnecting circuit breaker (line protection feeder)



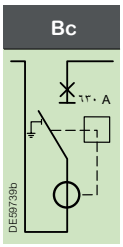
D function

- Transformer feeder 200 A with disconnecting circuit breaker



DE-Bc function

- Bus coupler by 630 A circuit breaker



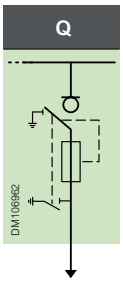
Rated voltage		Ur	kV	12		17.5		24						
Rated frequency		Fr	Hz	50 or 60		50 or 60		50 or 60						
Insulation level														
Industrial frequency 50Hz/1min	Phase-to-phase, phase-to-earth	Ud	kV rms	28		38		50						
	Across isolating distance	Ud	kV rms	32		45		60						
Lightning impulse withstand	Phase-to-phase, phase-to-earth	Up	kV peak	75		95		125						
	Across isolating distance	Up	kV peak	85		110		145						
Rated current		Ir	A	200	630	200	630	200	630	200	630	200	200	200
Rated current busbars		Ir	A	630		630		630		630		400	400	630
Short-time withstand current		It	kA rms	25		21(1)		16		20		12.5	16	12.5
		tk	s	1		1 or 3		1		1 or 3		1	1	1
No-load transformer breaking capacity		I3	A	-	16	-	16	-	16	-	16	16	16	16
Short-circuit breaking capacity		Isc	kA	25		21		16		20		12.5	16	12.5
Making capacity		Ima	kA peak	62.5		52.5		40		50		31.25	40	31.25
Operating sequence				O – 3min- CO – 3min - O										
Bushing(2)			Type	C		C		C		C		A	BorC	A
Mechanical endurance	Circuit breaker	M1	Number of openings	2000		2000		2000						
	Earthing switch	M0	Number of openings	1000		1000		1000						
Electrical endurance	Circuit breaker	E2	Number of short-circuit breaking operations	3		3		3						
			Number of short-circuit making operations	2		2		2						
	Earthing switch	E2	Number of short-circuit making operations	5		5		5		2		5	5	5

(1) 17.5 kA for DE-Bc
(2) No bushing for DE-Bc function

Functional overview
Q function

Q function

- Transformer feeder with fuse-switch protection

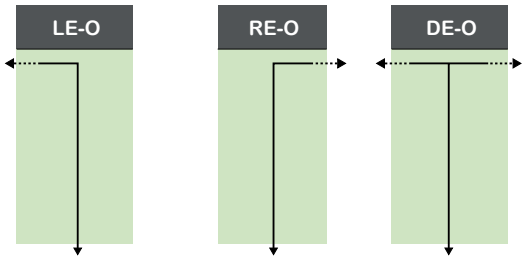


Rated voltage		Ur	kV	12		17.5	24			
Rated frequency		Fr	Hz	50 or 60		50 or 60	50 or 60			
Insulation level										
Industrial frequency 50Hz/1min	Phase-to-phase, phase-to-earth	Ud	kV rms	28		38	50			
	Across isolating distance	Ud	kV rms	32		45	60			
Lightning impulse withstand	Phase-to-phase, phase-to-earth	Up	kV peak	75		95	125			
	Across isolating distance	Up	kV peak	85		110	145			
Rated current		Ir	A	200	200	200	200	200	200	200
Rated current busbars		Ir	A	630	630	630	400	400	630	630
Short-time withstand current		It	kA rms	21	25	21	12.5	16	16	20
		tk	s	1	1	1 or 3	1	1	1	1 or 3
No-load transformer breaking capacity		I3	A	16	16	16	16	16	16	16
Short-circuit breaking capacity		Isc	kA	21	25	21	12.5	16	16	20
Making capacity		Ima	kA peak	52.5	62.5	52.5	31.25	40	40	50
Bushing			Type	A	A	A	A	A	A	A
Mechanical endurance	Switch disconnector	M1	Number of openings	1000		1000	1000			
	Earthing switch	M0	Number of openings	1000		1000	1000			

Functional overview
O function

O function

- Cable connection

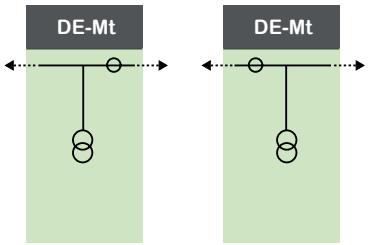


Rated voltage	Ur	kV	12	12	17.5	17.5	24	24	24
Rated current busbars	Ir	A	630	630	630	630	630	630	630
Rated current	Ir	A	200	630	200	630	200	630	630
Short-time withstand current	Ik	kA rms	25	25	21	21	16	16	20
	tk	Duration (s)	1	1	3	3	1	1	1 or 3
Bushing			C	C	C	C	C	C	C

Functional overview
DE-Mt function (Busbar metering)

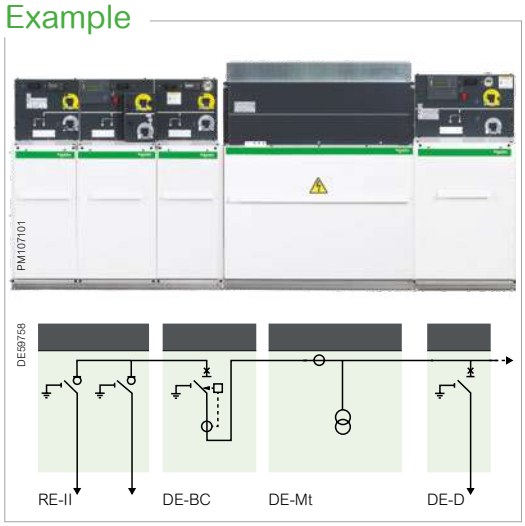
DE-Mt function (Busbar metering)

- Air-insulating metering panel for MV power billing
- Internal Arc withstand
- Connected by busbar to RM6 functions



Rated voltage	Ur	kV	12	17.5	24
Rated current busbars	Ir	A	630	630	630
Rated current	Ir	A	630	630	630
Short-time withstand current	Ik	kA rms	25	21	16 or 20
	tk	Duration (s)	1	1 or 3	1 or 3
Cubicle internal arc withstand			16 kA 1 s	16 kA 1 s	16 kA 1 s

Example



Voltage transformers

Schneider Electric models or DIN 42600 type section 9.
2 phase-phase VT, 2 phase-earth VT, 3 phase-earth VT.
Optional fuse protection.

Current transformers

Schneider Electric models or DIN 42600 type section 8.
2 CT or 3 CT. CTs can be right or left-fitted.

A clear separation between MV and LV

All measures are taken to avoid operating on the MV compartment.
The secondary CT and VTs are cabled to the customer terminal in an LV compartment to enable:

- Connection to a remote power meter (in another room)
- Or connection to the LV cabinet mounted on the LV compartment (option).

Option: an LV cabinet

- Placed on top of the LV compartment
- Allows installation of active or reactive power meters, of all auxiliaries to monitor current, voltage and consumed power
- Cabinet door key locks available (Type R7)

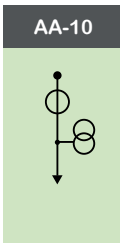
Please contact us

1. For different possible options of Metering with different **Current and Voltage transformers**
2. If the layout of metering panel is different from the picture **shown above**

Functional overview

Compact metering module AA-10 (Feeder metering)

Compact metering module AA-10 (Feeder metering)



- True GIS design: fully insulated metering solution for MV power billing
- Internal Arc withstand
- Installed in a 520 mm height bottom compartment with no live parts
- Electrical characteristics covering all RM6 range up to 24kv

Screened Voltage transformers

Specially designed for GIS application, fully screened and protected against external conditions; does not require any fuse protection.

Internal parts are englobed in vacuum casting EPOXY resin resulting in excellent mechanical and electrical characteristics.

Voltage transformer surface is covered with metallized screen.

Ring Current transformers

Ring-type current transformers with compact dimensions for easy installation.

Option: an LV cabinet

- Placed on top of the LV compartment
- Allows installation of active or reactive power meters, of all auxiliaries to monitor current, voltage and consumed power