



	E2				E3				E4				E6	
	B	N	S	L	N	S	H	V	L	S	H	V	H	V
	1600	1000	800	1250	2500	1000	800	800	2000	4000	3200	3200	4000	3200
	2000	1250	1000	1600	3200	1250	1000	1250	2500	-	4000	4000	5000	4000
	-	1600	1250	-	-	1600	1250	1600	-	-	-	-	6300	5000
	-	2000	1600	-	-	2000	1600	2000	-	-	-	-	-	6300
	-	-	2000	-	-	2500	2000	2500	-	-	-	-	-	-
	-	-	-	-	-	3200	2500	3200	-	-	-	-	-	-
	-	-	-	-	-	-	3200	-	-	-	-	-	-	-
	100	100	100	100	100	100	100	100	100	50	50	50	50	50
	42	65	85	130	65	75	100	130	130	75	100	150	100	150
	42	65	85	110	65	75	100	130	110	75	100	150	100	150
	42	55	65	85	65	75	85	100	85	75	100	130	100	130
	42	55	65	85	65	75	85	100	85	75	85	100	100	100
	42	65	85	130	65	75	85	100	130	75	100	125	100	125
	42	65	85	110	65	75	85	100	110	75	100	125	100	125
	42	55	65	65	65	75	85	85	65	75	100	130	100	100
	42	55	65	65	65	75	85	85	65	75	85	100	100	100
	42	55	65	10	65	75	75	85	15	75	100	100	100	100
	42	42	42	-	65	65	65	65	-	75	75	75	85	85
	88.2	143	187	286	143	165	220	286	286	165	220	330	220	330
	88.2	143	187	242	143	165	220	286	286	165	220	330	220	330
	88.2	121	143	187	143	165	187	220	187	165	220	286	220	286
	88.2	121	143	187	143	165	187	220	187	165	187	220	220	220
	B	B	B	A	B	B	B	B	A	B	B	B	B	B
	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	80	80	80	80	80	80	80	80	80	80	80	80	80	80
	70	70	70	70	70	70	70	70	70	70	70	70	70	70
	30	30	30	12	30	30	30	30	12	30	30	30	30	30
	296/386				404/530				566/656				782/908	
	324/414				432/558				594/684				810/936	
	50/61	50/61	50/61	52/63	66/80	66/80	66/80	66/80	72/83	97/117	97/117	97/117	140/160	140/160
	78/93	78/93	78/93	80/95	104/125	104/125	104/125	104/125	110/127	147/165	147/165	147/165	210/240	210/240

	E2 B-N-S				E2 L		E3 N-S-H-V							E3 L		E4 S-H-V		E6 H-V			
	800	1000	1600	2000	1250	1600	800	1000	1600	2000	2500	3200	3200	2000	2500	3200	4000	3200	4000	5000	6300
	25	25	25	25	20	20	20	20	20	20	20	20	20	15	15	15	15	12	12	12	12
	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	15	15	12	10	4	3	12	12	10	9	8	6	6	2	1,8	7	5	5	4	3	2
	15	15	10	8	3	2	12	12	10	9	7	5	5	1,5	1,3	7	4	5	4	2	1,5
	30	30	30	30	20	20	20	20	20	20	20	20	20	20	20	10	10	10	10	10	10

# Emax air circuit-breakers for specific applications

			X1	E1	E2		
<b>Circuit-breakers with full section neutral conductor</b>							
Poles	[No]		Standard version	Standard version		Standard version	
Current carrying capacity of the neutral of 4p circuit-breakers	[% I <sub>n</sub> ]						
I <sub>u</sub>	(40 °C)	[A]					
U <sub>e</sub>		[V~]					
I <sub>cu</sub>	(220...415 V)	[kA]					
I <sub>cs</sub>	(220...415 V)	[kA]					
I <sub>cw</sub>	(1s)	[kA]					
	(3s)	[kA]					

## Switch-disconnectors

			X1B/MS	E1B/MS	E1N/MS	E2B/MS	E2N/MS	E2S/MS
Poles	[No]		3-4	3-4	3-4	3-4	3-4	3-4
I <sub>u</sub>	(40 °C)	[A]	1000-1250-1600	800-1000-1250-1600	800-1000-1250-1600	1600-2000	1000-1250-1600-2000	1000-1250-1600-2000
U <sub>e</sub>		[V~]	690	690	690	690	690	690
I <sub>cw</sub>	(1s)	[kA]	42	42	50	42	55	65
	(3s)	[kA]		36	36	42	42	42
I <sub>cm</sub>	(220...440 V)	[kA]	88.2	88.2	105	88.2	121	143

## Circuit-breakers for applications up to 1150 V AC

			X1B/E		E2B/E	E2N/E
Poles	[No]		3-4		3-4	3-4
I <sub>u</sub>	(40 °C)	[A]	630-800-1000-1250-1600		1600-2000	1250-1600-2000
U <sub>e</sub>		[V~]	1000		1150	1150
I <sub>cu</sub>	(1000 V)	[kA]	20		20	30
I <sub>cs</sub>	(1000 V)	[kA]	20		20	30
I <sub>cw</sub>	(1s)	[kA]	20		20	30

## Switch-disconnectors for applications up to 1150 V AC

			X1B/E MS		E2B/E MS	E2N/E MS
Poles	[No]		3-4		3-4	3-4
I <sub>u</sub>	(40 °C)	[A]	1000-1250-1600		1600-2000	1250-1600-2000
U <sub>e</sub>		[V~]	1000		1150	1150
I <sub>cw</sub>	(1s)	[kA]	20		20	30
I <sub>cm</sub>	(1000 V)	[kA]	40		40	63

## Switch-disconnectors for applications up to 1000 V DC

				E1B/E MS		E2N/E MS
Poles	[No]			3-4		3-4
I <sub>u</sub>	(40 °C)	[A]		800-1250		1250-1600-2000
U <sub>e</sub>		[V-]		750 (3p) 1000 (4p)		750 (3p) 1000 (4p)
I <sub>cw</sub>	(1s)	[kA]		20		25
I <sub>cm</sub>	(750 V)	[kA]		42		52.5
	(1000 V)	[kA]		42		52.5

## Isolating truck

				E1 CS		E2 CS
I <sub>u</sub>	(40 °C)	[A]		1250		2000

## Earthing switch with making capacity

				E1 MTP		E2 MTP
I <sub>u</sub>	(40 °C)	[A]		1250		2000

## Earthing truck

				E1 MT		E2 MT
I <sub>u</sub>	(40 °C)	[A]		1250		2000

(\*) The performance at 1000 V is 50 kA

E3			E4			E6		
Standard version			E4S/f	E4H/f			E6H/f	
			4	4			4	
			100	100			100	
			4000	3200-4000			4000-5000-6300	
			690	690			690	
			80	100			100	
			80	100			100	
			80	85			100	
			75	75			100	
E3N/MS	E3S/MS	E3V/MS	E4S/MS	E4H/MS	E4H/f MS	E6H/MS	E6H/f MS	
3-4	3-4	3-4	3-4	3-4	4	3-4	4	
2500-3200	1000-1250-1600-2000-2500-3200	800-1250-1600-2000-2500-3200	4000	3200-4000	3200-4000	4000-5000-6300	4000-5000-6300	
690	690	690	690	690	690	690	690	
65	75	85	75	100	85	100	100	
65	65	65	75	75	75	85	85	
143	165	187	165	220	187	220	220	
E3H/E			E4H/E			E6H/E		
3-4			3-4			3-4		
1250-1600-2000-2500-3200			3200-4000			4000-5000-6300		
1150			1150			1150		
30(*)			65			65		
30(*)			65			65		
30(*)			65			65		
E3H/E MS			E4H/E MS			E6H/E MS		
3-4			3-4			3-4		
1250-1600-2000-2500-3200			3200-4000			4000-5000-6300		
1150			1150			1150		
50			65			65		
105			143			143		
E3H/E MS			E4H/E MS			E6H/E MS		
3-4			3-4			3-4		
1250-1600-2000-2500-3200			3200-4000			4000-5000-6300		
750 (3p) 1000 (4p)			750 (3p) 1000 (4p)			750 (3p) 1000 (4p)		
40			65			65		
105			143			143		
105			143			143		
E3 CS			E4 CS			E6 CS		
3200			4000			6300		
E3 MTP			E4 MTP			E6 MTP		
3200			4000			6300		
E3 MT			E4 MT			E6 MT		
3200			4000			6300		

# Accessories for Emax air circuit-breakers

## Circuit-breaker version

	Circuit-breakers			
	Circuit-breakers with full section neutral			
	Circuit-breakers for applications up to 1150 V AC			
	X1		E1-E6	
	Fixed	Withdrawable	Fixed	Withdrawable
Service releases				
Shunt opening/closing release and second shunt opening release	•	•	•	•
SOR test unit	•	•	•	•
Undervoltage release	•	•	•	•
Delay device for undervoltage release	•	•	•	•
Remote control				
Geared motor for automatic charging of the closing springs (M)	•	•	•	•
Electric signals				
Electric signalling overcurrent release tripping	•	•	•	•
Electric signalling overcurrent release tripping with remote control	•	•	•	•
Electric signalling of circuit-breaker open/closed <sup>(1)</sup>	•	•	•	•
Electric signalling of circuit-breaker open/closed, supplementary external			•	•
Electric signalling of circuit-breaker connected/racked-out/racked out for test		○		•
Signalling contact for closing springs charged	•	•	•	•
Signalling contact for the undervoltage release de-energised (C. Aux YU)			•	•
Signalling contact for "ready to close"	•	•		
Accessories for electronic releases				
Current transformer for the neutral conductor outside the circuit-breaker	•	•	•	•
Homopolar toroid for the earth earthing conductor of the mains supply (star centre of the transformer)	•	•	•	•
Homopolar toroid for residual current protection	•	•	•	•
Controls and locks				
Mechanical operation counter	•	•	•	•
Lock in open position: key	•	•	•	•
Lock in open position: padlocks	•	•	•	•
Circuit-breaker lock in connected/racked-out/racked out for test position		●		●
Accessories for lock in racked-out/racked out for test position		●		●
Accessory for shutter padlock lock				•
Mechanical lock on compartment door	•	•	•	•
Opening and closing pushbutton protection	•	•	•	•
IP54 door protection	•	•	•	•
Sliding contact locks	•	•	•	•
Interlock between circuit-breakers <sup>(2)</sup>	•	•	•	•
Automatic network-generator transfer unit				
ATS021/ATS022 automatic network-generator transfer switch <sup>(3)</sup>	•	•	•	•

## KEY

- Optional accessory on circuit-breaker fixed or moving part
- Optional accessory on fixed part
- Optional accessory on moving part

<sup>(1)</sup> For the circuit-breaker the 4 auxiliary contacts for electric signalling of circuit-breaker open/closed are included in the normal supply

<sup>(2)</sup> Incompatible with the versions with full section neutral E6/f

<sup>(3)</sup> For E1-E6, incompatible with the range of circuit-breakers for applications up to 1150V AC. For X1, incompatible with the range of circuit-breakers for applications up to 1000V AC




# Main characteristics of releases




## Combination of release with circuit-breaker

	X1	E1	E2	E3	E4	E6
In	630/1600	800/1600	800/2000	800/3200	3200/4000	3200/6300
Version	F-W	F-W	F-W	F-W	F-W	F-W
Electronic	PR331/P	•	-	-	-	-
	PR332/P	•	-	-	-	-
	PR333/P	•	-	-	-	-
	PR121/P	-	•	•	•	•
	PR122/P	-	•	•	•	•
	PR123/P	-	•	•	•	•

## Electronic releases

	PR331/P	PR332/P	PR333/P
			

Electronic releases	LI-LSI-LSIG	LSIG	LSIG
Compatible circuit-breakers	T7-X1	T7-X1	X1
Applications	Distribution	Distribution	Distribution
Basic protections			
L	(DS) (E) I1=0.4-1 In (DS) (E) t1=3-144 s t=k/2	(ME) (E) I1=0.4-1 In (ME) (E) t1=3-144 s t=k/2	(ME) (E) I1=0.4-1 In (ME) (E) t1=3-144 s t=k/2
S	(DS) (E) I2=0.6-10 In (DS) (E) t2=0.1-0.8 s t=k/2 or t=k	(ME) (E) I2=0.6-10 In (ME) (E) t2=0.05-0.8 s t=k/2 or t=k	(ME) (E) I2=0.6-10 In (ME) (E) t2=0.05-0.8 s t=k/2 or t=k
I	(DS) (E) I3=1.5-15 In t3= instantaneous t=k	(ME) (E) I3=1.5-15 In t3= instantaneous t=k	(ME) (E) I3=1.5-15 In t3= instantaneous t=k
G	(DS) (E) I4=0.2-1 In (DS) (E) t1=0.1-0.8 s t=k/2 or t=k	(ME) (E) I4=0.2-1 In (ME) (E) t4=0.1-0.8 s t=k/2 or t=k	(ME) (E) I4=0.2-1 In (ME) (E) t4=0.1-0.8 s t=k/2 or t=k
Rc	RCQ SACE -	(ME) (E) IΔ=3-30 A (ME) (E) tΔ=0.06-0.8 s t=k	(ME) (E) IΔ=3-30 A (ME) (E) tΔ=0.06-0.8 s t=k
OT	-	T=85 °C t= instantaneous t=k	T=85 °C t= instantaneous t=k
U	-	(ME) (E) I6=0.02-0.9 I1 (ME) (E) t6=0.5-60 s t=k	(ME) (E) I6=0.02-0.9 I1 (ME) (E) t6=0.5-60 s t=k
Advanced protections			
UV	-	(ME) (E) U8=0.5-0.95 Un (ME) (E) t8 =0.1-5 s t=k	(ME) (E) U8=0.5-0.95 Un (ME) (E) t8 =0.1-5 s t=k
OV	-	(ME) (E) U9=1.05-1.2 Un (ME) (E) t9 =0.1-5 s t=k	(ME) (E) U9=1.05-1.2 Un (ME) (E) t9 =0.1-5 s t=k
RV	-	(ME) (E) U10 =0.1-0.4 Un (ME) (E) t10 =0.5-30 s t=k	(ME) (E) U10 =0.1-0.4 Un (ME) (E) t10 =0.5-30 s t=k
RP	-	(ME) (E) P11 =-0.3/-0.1 Pn (ME) (E) t11 =0.5-25 s t=k	(ME) (E) P11 =-0.3/-0.1 Pn (ME) (E) t10 =0.5-25 s t=k
UF	-	(ME) (E) f12 =0.90-0.99 fn (ME) (E) t12 =0.5-3 s t=k	(ME) (E) f12 =0.90-0.99 fn (ME) (E) t10 =0.5-3 s t=k
OF	-	(ME) (E) f13 =1,01-1,10 fn (ME) (E) t13 =0.5-3 s t=k	(ME) (E) f13 =1.01-1.10 fn (ME) (E) t13 =0.5-3 s t=k
S2	-	-	(ME) (E) I2=0.6-10 In (ME) (E) t2=0.05-0.8 s t=k
D	-	-	(ME) (E) I7=0.6-10 In t=k
R	-	-	(ME) (E) t7=0.2-0.8 s t=k
Communication	PR021/K remote signalling	With PR330/D-M - Modbus protocol- BT030 communication wireless -PR021/K remote signalling	With PR330/D-M as standard-Modbus protocol
Measurements	Basic-BT030	Basic included as standard-advanced with PR330/V	advanced- harmonic analysis
NOTES	Setting (E) with PR010T or with BT030-Interface front of panel HMI030	Adv. Prot. PR330V-Setting (E) with PR010T or with BT030-Interface front of panel HMI030	-

PR121/P	PR122/P	PR123/P
		
<b>LI-LSI-LSIG</b>	<b>LI-LSI-LSIG</b>	<b>LI-LSI-LSIG</b>
E1-E2-E3-E4-E6	E1-E2-E3-E4-E6	E1-E2-E3-E4-E6
Distribution	Distribution	Distribution
(DS) (E) I1=0.4-1 In	(ME) (E) I1=0.4-1 In	(ME) (E) I1=0.4-1 In
(DS) (E) t1=3-144 s t=k/2	(ME) (E) t1=3-144 s t=k/2	(ME) (E) t1=3-144 s t=k/2
(DS) (E) I2=1-10 In	(ME) (E) I2=0.6-10 In	(ME) (E) I2=0.6-10 In
(DS) (E) t2=0.1-0.8 s t=k	(ME) (E) t2=0.5-0.8 s t=k/2 or t=k	(ME) (E) t2=0.05-0.8 s t=k/2 or t=k
(DS) (E) I3=1.5-15 In	(ME) (E) I3=1.5-15 In	(ME) (E) I3=1.5-15 In
t3= instantaneous t=k	t3= instantaneous t=k	t3= instantaneous t=k
(DS) (E) I4=0.2-1 In	(ME) (E) I4=0.1-1 In	(ME) (E) I4=0.1-1 In
(DS) (E) t4=0.1-0.8 s t=k	(ME) (E) t4=0.1-1 s t=k/2 or t=k	(ME) (E) t4=0.1-1 s t=k/2 or t=k
-	(ME) (E) IΔ=3-20 A	(ME) (E) IΔ=3-30 A
-	(ME) (E) tΔ=0.06-0.8s t=k	(ME) (E) tΔ=0.06-0.8 s t=k
-	T=85° C	T=85° C
-	t=instantaneous t=k	t=instantaneous t=k
-	(ME) (E) I6=5...90%	(ME) (E) I6=5...90%
-	(ME) (E) t6=0.5-60 s t=k	(ME) (E) t6=0.5-60 s t=k
-	(ME) (E) U8=0.5-0.95 Un	(ME) (E) U8=0.5-0.95 Un
-	(ME) (E) t8 =0.1-5 s t=k	(ME) (E) t8 =0.1-5 s t=k
-	(ME) (E) U9=1.05-1.2 Un	(ME) (E) U9=1.05-1.2 Un
-	(ME) (E) t9 =0.1-5 s t=k	(ME) (E) t9 =0.1-5 s t=k
-	(ME) (E) U10 =0.1-0.4 Un	(ME) (E) U10 =0.1-0.4 Un
-	(ME) (E) t10 =0.5-30 s t=k	(ME) (E) t10 =0.5-30 s t=k
-	(ME) (E) P11 =-0.3/-0.1 Pn	(ME) (E) P11 =-0.3/-0.1 Pn
-	(ME) (E) t10 =0.5-25 s t=k	(ME) (E) t10 =0.5-25 s t=k
-	(ME) (E) f12 =0.90-0.99 fn	(ME) (E) f12 =0.90-0.99 fn
-	(ME) (E) t10 =0.5-3 s t=k	(ME) (E) t10 =0.5-3 s t=k
-	(ME) (E) f13 =1.01-1.10 fn	(ME) (E) f13 =1.01-1.10 fn
-	(ME) (E) t13 =0.5-3 s t=k	(ME) (E) t13 =0.5-3 s t=k
-	-	(ME) (E) I2=0.6-10 In
-	-	(ME) (E) t2=0.05-0.8 s t=k
-	-	(ME) (E) I7=0.6-10 In
-	-	(ME) (E) t7=0.2-0.8 s t=k
-	-	-
PR021K Alarm signalling	With PR120/ D-M	With PR120/ D-M
-	Basic: included as standard-advanced with Accessory PR120/V	advanced- harmonic analysis
-	Adv. prot. PR120V-Diff. with homopolar toroid- Sett. (E) with PR010T, BT030-USB, PR120/D-BT	Residual with homopolar toroid-Setting (E) with PR010T, BT030-USB, PR120/D-BT

### KEY

L-Protection against overload  
S-Selective protection against short-circuit  
I-Instantaneous protection against short-circuit  
G-Protection against earth faults  
Rc-Protection against residual current  
OT-Protection against overtemperature  
U-Protection against phase unbalance  
UV-Undervoltage protection

t=k relation t=f(I)



t=k/2 relation t=f(I)



OV-Oversvoltage protection  
RV-Protection against residual voltage  
RP-Protection against active power reversal  
UF-Protection against under frequency  
OF-Protection against over frequency  
S2-Selective protection against short-circuit  
D-Protection against directional short-circuit  
R-Protection against rotor block

PR010T-Test and configuration unit  
PR\_ \_ D-M-Communication module mod-  
bus  
PR\_ \_ V Measurement module  
BT030-Wireless communication unit

PR021K-Signalling unit

(M)-Manual setting  
(DS)-Setting with Dip Switch  
(E)-Electronic setting with external apparatus  
(BT030 or PR010T) or remotely with communication  
(ME)-Electronic manual setting on front of panel

RC\_ \_-External residual current release for moulded-case circuit-breakers  
RCQ SACE-Panel residual current with toroid and opening coil



Basic Measurements  
Phase, Neutral, Earth currents

Advanced Measurements  
Currents (phase, Neutral, Earth)  
Phase voltages (between phases, phase-neutral, residual)  
Power (Active, Reactive, Apparent)  
Power factor  
Frequency and Peak Factor  
Energy (Active, Reactive, Apparent)


Version  
F- Fixed  
P- Plug-in  
W- Withdrawable

# Main characteristics of releases


## RCQ SACE

	Characteristics		All 3/4 poles
	Power supply voltage	AC [V]/DC [V]	80...500/48...125
	Frequency of operation	[Hz]	45...66
	Absorbed power on inrush		100 [VA]/100 [W]
	Absorbed power running		6 [VA]/6 [W]
	Adjustment of trip threshold		
	1st range of Adjustments	[A]	0.03-0.05-0.1-0.3-0.5
	2nd range of Adjustments	[A]	1-3-5-10-30
	Adjustment of trip times IΔn	[s]	instantaneous-0.1-0.2-0.3-0.5-0.7-1-2-3 5
	Adjustment of pre-alarm threshold	[%] x IΔn	25...75% x IΔn
	Range of use of closed transformers		
	Toroidal transformer Ø 60 [mm]	[A]	0.03...30
	Toroidal transformer Ø 110 [mm]	[A]	0.03...30
	Toroidal transformer Ø 185 [mm]	[A]	0.1...30
	Range of use of openable transformers		
	Toroidal transformer Ø 60 [mm]	[A]	0.03...30
	Toroidal transformer Ø 110 [mm]	[A]	0.03...30
	Toroidal transformer Ø 185 [mm]	[A]	0.1...30
	Pre-threshold pre-alarm indication		Yellow flashing LED 1 changeover contact N.O. 6A-250 V AC 50/60 Hz
	Signalling of residual current release trip		Magnetic indication and two changeover contacts (N.O. N.C. ; N.O.). 6A-250 V AC 50/60 Hz
Remote opening control		N.O. contact Trip time 15 ms	
Connection to the toroidal transformer		By means of 4 twisted conductors. Maximum length: 5 m	
Dimensions L x H x D	[mm]	96 x 96 x 131.5	
Drilling for assembly on door	[mm]	92 x 92	
Degree of protection on the front		IP41	
Degree of protection on the rear		IP30	

## HOMOPOLAR TOROID FOR RESIDUAL CURRENT PROTECTION

	<p>The PR332/P LSIRc, PR332/P LSIG (with PR330V) PR122/P LSIRc, PR122/P LSIG (with PR120/V) e PR123/P electronic trip units can be used with this accessory, which allows activation of the residual current protection. RC protection can be activated only when the dedicated rating plug for residual current protection and external toroidal transformer are present.</p>
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## HOMOPOLAR SENSOR

	<p>Homopolar sensor for main power supply earthing conductor (star centre of the transformer).</p>
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## Communication/Signalling/Measurement

### PR330/D-M - PR120/D-M



PR330/D-M



PR120/D-M

The PR330/D-M (for Tmax) and PR120/D-M (for Emax) communication modules are the solution for connection the ABB circuit-breakers to a Modbus network, for remote supervision and control of the circuit-breaker.

### SACE PR021/K -PR120/K



PR021/K



PR120/K

The SACE PR021/K and PR120/K (only for PR122 and PR123) signalling units are able to convert the digital signals supplied by the PR331, PR332, PR333, PR121, PR122 and PR123 protection units into electric signals by means of normally open electrical contacts, it allows remote signalling of the release alarms and trips.

### HMI030



This can be used with all the protection releases fitted with dialogue, it is designed to be installed on the front of the panel. It consists of a graphic display where all the measurements and the release alarms/events are displayed. Thanks to its high level of precision, the device can replace the traditional multi-meters without the need of current/voltage transformers. L'HMI030 is connected directly to the protection release by means of a serial line and requires a 24 V DC power supply.

### PR330/V -PR120/V



PR330/V



PR120/V

The internal PR330/V (for PR332/P) and PR120/V (for PR122/P) modules can be added to the releases and allow the phase voltages and neutral to be measured and processed, transferring these data to the protection release itself, so that a series of protection and measurement functions can be implemented.

### BT030 - PR120/D-BT



BT030



PR120/D-BT

The BT030 is a device to be connected to the Test connector of PR222DS, PR223DS, PR223EF, PR232/P, PR331/P and PR332/P. It allows Bluetooth communication between the protection release and a hand-held PC or a laptop with a Bluetooth port. The BT030 can also be used with Emax circuit-breakers equipped with PR121/P, PR122/P and PR123/P. For the PR122 and 123, the PR120/D-BT Bluetooth communication module is available, which can be inserted inside the release.

### PR010/T



The SACE PR010/T unit is an instrument able to carry out the Test, programming and parameter reading functions for the protection units which equip the circuit-breakers.