

RESTART AUTOTEST

Technical data

ТҮРЕ		ReStart with Autotest PRO 2P	ReStart with Autotest PRO 4P
lectrical characteristics	'	<u>'</u>	
Standards:		IEC EN 63024, IEC	EN 61008-1
Distribution system:		TT - TN	
Rated operational voltage (Ue):	(V)	230 AC ⁽¹⁾	400 AC
Minimum operating voltage (min Ue)	(V)	85% U	
Maximum operating voltage (max Ue): Rated insulation voltage (Ui):	(V)	110% U 500	e
Dielectric strength test voltage between pole and earth:	(V) (V)	2500 AC for 1	minuto
Rated impulse withstand voltage (Uimp):	(kV)	2300 AC 101 1	illilitie
Overvoltage category:	(1.17)	· · · · · · · · · · · · · · · · · · ·	
Rated frequency:	(Hz)	50	
Residual making and breaking capacity (I∆m):	(A)	630	
Rated conditional residual short-circuit current with fuse (I Δ c):	(A)	Type A[IR] a 10000 (gL 63A) fo 10000 (gL 80A) Type E	r In=25-40A for In=63A B
Number of poles		10000 (gL 63A) for 2	n=25-4U-63A 4
Number of poles: Type of associated residual current circuit breaker:			
Rated current (In):	(A)	25 - 40 -	
Rated residual operating current (IΔn):	(mA)	30 - 30	
Rated non-operating resistance between live parts and earth (Rdo):	(kΩ)	8 (30mA) - 2.5	
Rated operating resistance between live parts and earth (Rd):	(kΩ)	16 (30mA) - 5	
Power loss at In:	(W)	2.2 (25A) - 5.4 (40A) - 6.2 (63A)	3.5 (25A) - 6 (40A) - 12 (63A)
Off-load absorbed power:	(VA)	4 (cosφ=	·
Power absorbed during automatic reclosing:	(VA)	41 (cosφ=	
Power supply: Mechanical characteristics		from abo	ove
		Type A[IR]: 5	
Vidth in DIN modules:		Type B: 7	7
Reclosing time:	(s)	10	
Autotest cycle time:	(s)	7	
Maximum operational frequency:	(oper./h)	30	
Max mechanical endurance (total no. operations):		4000	
Maximum no. of consecutive automatic reclosure operations (2): Counter reset time no. of consecutive automatic reclosure operations:	(-)	<u>3</u>	
Lounter reset time no. or consecutive automatic reclosure operations:	(s)	flexible cable: ≤ 1x35 - ≤ 2x	16 - < 1v16+2v10 rigid
Section of circuit breaker terminals:	(mm²)	cable: ≤ 1x35 - ≤ 2x1	
Rated tightening torque:	(Nm)	2	2 INICIENTO
Mounting position:	(,	any	
Degree of protection:		IP20 (terminals) -	IP40 (front)
Pollution degree:		2	
Operating temperature:	(°C)	-25 +60	
	(°C)	-40 +7	J
Tropicalization:		55°C - RH	
Fropicalization: Auxiliary contact characteristics		55°C - RH	95%
Tropicalization: Auxiliary contact characteristics Type of contact:	(V)	55°C - RH Photomos (potentia	95% I free contact)
Tropicalization: Auxiliary contact characteristics Type of contact: Operating voltage:	(V) (mA)	55°C - RH	95% I free contact) /DC
Tropicalization: Auxiliary contact characteristics Type of contact: Operating voltage: Operating current:	(V) (mA) (Hz)	55°C - RH Photomos (potentic 5÷230 AC	95% I free contact) /DC
Tropicalization: Auxiliary contact characteristics Type of contact: Operating voltage: Operating current: Operating furrent:	(mA)	55°C - RH Photomos (potentia 5+230 AC 0.6 (min) - 100 cc 50 AC12	Il free contact) /DC ssp=1 (max)
Tropicalization: Auxiliary contact characteristics Type of contact: Operating voltage: Operating current: Operating frequency: Category of use: Operating mode:	(mA) (Hz)	55°C - RH Photomos (potentia 5+230 AC 0.6 (min) - 100 cc 50 AC12 NO / NC / NC -	Il free contact) /DC ssp=1 (max)
Fropicalization: Auxiliary contact characteristics Type of contact: Derating voltage: Derating current: Derating frequency: Category of use: Derating mode: Cerminal section:	(mA) (Hz) (mm²)	55°C - RH Photomos (potentia 5+230 AC 0.6 (min) - 100 cc 50 AC12 NO / NC / NC +	Il free contact) /DC ssp=1 (max)
Fropicalization: Auxiliary contact characteristics Experiting voltage: Derating voltage: Derating frequency: Category of use: Derating mode: Experiting mode: Experiting toque: Experiting toque: Experiting toque:	(mA) (Hz)	55°C - RH Photomos (potentia 5+230 AC 0.6 (min) - 100 cc 50 AC12 NO / NC / NC -	Il free contact) /DC ssp=1 (max)
Fropicalization: Auxiliary contact characteristics Type of contact: Derating voltage: Derating current: Derating frequency: Category of use: Derating mode: Cerminal section: Cated tightening torque: Autotest FUNCTION	(mA) (Hz) (mm²)	55°C - RH Photomos (potentis 5+230 AC 0.6 (min) - 100 cc 50 AC12 NO / NC / NC + ≤ 2.5 0.4	Il free contact) /DC ssp=1 (max)
Fropicalization: Auxiliary contact characteristics Type of contact: Operating voltage: Operating current: Operating frequency: Category of use: Operating mode: Ferminal section: Rated tightening torque: Autotest FUNCTION Regular and automatic RCCB test:	(mA) (Hz) (mm²)	55°C - RH Photomos (potentia 5+230 AC 0.6 (min) - 100 cc 50 AC12 NO / NC / NC + ≤ 2.5 0.4	Il free contact) /DC ssp=1 (max)
ropicalization: Auxiliary contact characteristics Type of contact: Iperating voltage: Iperating current: Iperating frequency: Iategory of use: Iperating mode: Ierminal section: Iated tightening torque: Autotest Function Regular and automatic RCCB test: Iight signalling for autotest cycle in progress:	(mA) (Hz) (mm²)	55°C - RH Photomos (potentia 5+230 AC 0.6 (min) - 100 cc 50 AC12 NO / NC / NC / NC + ≤ 2.5 0.4	Il free contact) /DC ssp=1 (max)
ropicalization: Auxiliary contact characteristics lype of contact: perating voltage: perating current: perating frequency: lategory of use: perating mode: lerminal section: Rated tightening torque: Autotest Function Regular and automatic RCCB test: light signalling for autotest cycle in progress: light signalling for any device anomaly:	(mA) (Hz) (mm²)	55°C - RH Photomos (potentia 5+230 AC 0.6 (min) - 100 cc 50 AC12 NO / NC / NC + ≤ 2.5 0.4	Il free contact) /DC ssp=1 (max)
Fropicalization: Auxiliary contact characteristics Frype of contact: Diperating voltage: Diperating frequency: Lategory of use: Diperating mode: Ferminal section: Lated tightening torque: Autotest FUNCTION Regular and automatic RCCB test: Light signalling for any device anomaly: ReStart FUNCTION	(mA) (Hz) (mm²)	55°C - RH Photomos (potentia 5+230 AC 0.6 (min) - 100 cc 50 AC12 NO / NC / NC / NC + ≤ 2.5 0.4	Il free contact) /DC ssp=1 (max)
Fropicalization: Auxiliary contact characteristics Type of contact: Operating voltage: Operating current: Operating frequency: Category of use: Operating mode: Ferminal section: Rated tightening torque: Autotest FUNCTION Regular and automatic RCCB test: Light signalling for autotest cycle in progress: Light sunction Resular and automatic RCCB test: Restart FUNCTION Resular and Automatic RCCB test: Restart FUNCTION Resular and Automatic RCCB test: Restart FUNCTION Automatic reclosure for untimely tripping:	(mA) (Hz) (mm²)	55°C - RH Photomos (potentia 5+230 AC 0.6 (min) - 100 cc 50 AC12 NO / NC / NC + ≤ 2.5 0.4	Il free contact) /DC ssp=1 (max)
Tropicalization: Auxiliary contact characteristics Type of contact: Operating voltage: Operating current: Operating frequency: Category of use: Operating mode: Terminal section: Rated tightening torque: Autotest FUNCTION Regular and automatic RCCB test: Light signalling for autotest cycle in progress: Light signalling for any device anomaly: RESTART FUNCTION Automatic reclosure for untimely tripping: Earth leakage check:	(mA) (Hz) (mm²)	55°C - RH Photomos (potentis 5+230 AC 0.6 (min) - 100 cc 50 AC12 NO / NC / NC + ≤ 2.5 0.4	Il free contact) /DC ssp=1 (max)
Tropicalization: Auxiliary contact characteristics Type of contact: Operating voltage: Operating frequency: Category of use: Operating mode: Ierminal section: Rated tightening torque: Autotest FUNCTION Regular and automatic RCCB test: Light signalling for any device anomaly: ReStart FUNCTION Automatic reclosure for untimely tripping: Earth leakage check: Continuous system check:	(mA) (Hz) (mm²)	55°C - RH Photomos (potentis 5+230 AC 0.6 (min) - 100 cc 50 AC12 NO / NC / NC + ≤ 2.5 0.4	Il free contact) /DC ssp=1 (max)
Tropicalization: Auxiliary contact characteristics Type of contact: Operating voltage: Operating current: Operating frequency: Category of use: Operating mode: Terminal section: Rated tightening torque: Autotest FUNCTION Regular and automatic RCCB test: Light signalling for autotest cycle in progress: Light signalling for any device anomaly: ReStart FUNCTION Automatic reclosure for untimely tripping: Earth leakage check: Continuous system check: Interruption of reclosure operation in the event of a fault: Signalling of reclosure operation in progress:	(mA) (Hz) (mm²)	55°C - RH Photomos (potentia 5+230 AC 0.6 (min) - 100 cc 50 AC12 N0 / NC / NC + ≤ 2.5 0.4	Il free contact) /DC ssp=1 (max)
Tropicalization: Auxiliary contact characteristics Type of contact: Operating voltage: Operating current: Operating frequency: Category of use: Operating mode: Terminal section: Rated tightening torque: Autotest FUNCTION Regular and automatic RCCB test: Light signalling for autotest cycle in progress: Light signalling for any device anomaly: ReStart FUNCTION Automatic reclosure for untimely tripping: Earth leakage check: Continuous system check: Interruption of reclosure operation in the event of a fault: Signalling of reclosure operation in progress: Light signalling of failure:	(mA) (Hz) (mm²)	55°C - RH Photomos (potentis 5+230 AC 0.6 (min) - 100 cc 50 AC12 NO / NC / NC + ≤ 2.5 0.4	Il free contact) /DC ssp=1 (max)
Stocking temperature: Tropicalization: Auxiliary contact characteristics Type of contact: Operating voltage: Operating current: Operating frequency: Category of use: Operating mode: Terminal section: Rated tightening torque: Autotest FUNCTION Regular and automatic RCCB test: Light signalling for autotest cycle in progress: Light signalling for autotest cycle in progress: Light signalling for autotest cycle in progress: Cight signalling for are to the total contact of the contact of	(mA) (Hz) (mm²)	55°C - RH Photomos (potentis 5+230 AC 0.6 (min) - 100 cc 50 AC12 NO / NC / NC + ≤ 2.5 0.4	Il free contact) /DC ssp=1 (max)
Tropicalization: Auxiliary contact characteristics Type of contact: Operating voltage: Operating current: Operating frequency: Category of use: Operating mode: Iterminal section: Rated tightening torque: Autotest FUNCTION Regular and automatic RCCB test: Light signalling for autotest cycle in progress: Light signalling for any device anomaly: ReStart FUNCTION Automatic reclosure for untimely tripping: Earth leakage check: Continuous system check: Interruption of reclosure operation in the event of a fault: Signalling of reclosure operation in progress: Light signalling of failure:	(mA) (Hz) (mm²)	55°C - RH Photomos (potentis 5+230 AC 0.6 (min) - 100 cc 50 AC12 NO / NC / NC + ≤ 2.5 0.4	Il free contact) /DC ssp=1 (max)

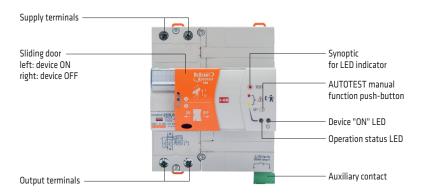
^{(1) 230}V phase-neutral power supply (2) In the absence of failure in the system (3) Average daily temperature ≤ +35°C

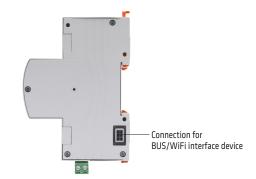
⁽⁴⁾ By setting NC+pulse mode, the auxiliary contact switches for 100ms at the end of each Autotest cycle performed successfully.



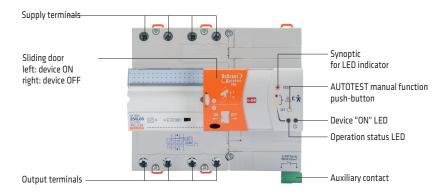
DEVICE DESCRIPTION

ReStart Autotest PRO 2P





ReStart Autotest PRO 4P



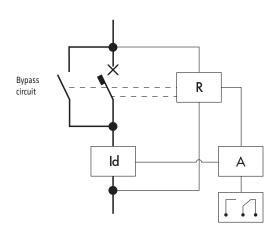


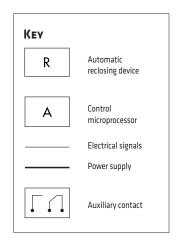


AUTOTEST FUNCTION

The AUTOTEST function periodically tests the working of the residual current circuit breaker protection. During the test, a bypass circuit ensures electrical continuity meanwhile an additional RCCB protection device guarantees system safety. The automatic reclosing device ensures the automatic resetting of the lever of circuit breaker in ON position. Moreover, pressing the button on the front of the device at any time, Autotest immediately carries out an automatic test on the RCCB without interupting the power supply. This means test can be carried out during normal day-to-day operations without any inconvenience.

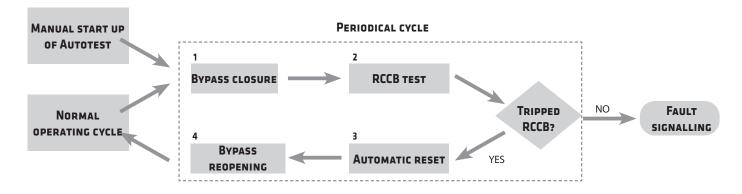
ELECTRICAL DIAGRAM





PERIODICAL TEST FUNCTION

After installation, it is possible to start up the AUTOTEST function manually (pressing the appropriate button) in order to check if the wiring is correct and to synchronise the periodical test function.





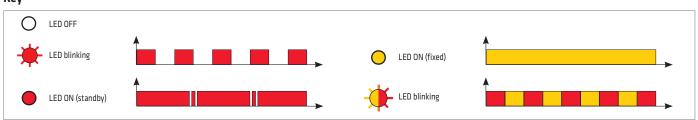
ReStart with Autotest light signalling

ReStart with Autotest is equipped with two LEDs on the front which show the operation conditions of device. Precisely, the right LED is switched on when the device is activated, whereas the left LED shows the operation conditions.

D. Chart and Helana	D-Class Count	Lever		LED indicators		Paradistina
ReStart conditions	ReStart front	position	Left LED	Right LED	Aux contact	Description
		MAN	UAL OPERATIO	N		
Deactivated	* TEST * T	I			OFF	ARD and autotest OFF
Deactivated for over 15 minutes	** TEST ** TES	ı	0		ON	ARD and autotest OFF
Deactivated	* TEST * T	0	0	0	OFF	ARD and autotest OFF
		AUTOMATI	C OPERATING C	YCLE (*)		
Normal operation	* TEST * T	ı	0		OFF	ARD and autotest ON Automatic functions ON
Electric circuit check	* TEST * T	0	*		OFF	ARD and autotest checks the electric system insulation
System failure	* TEST * TEST	0			ON	ARD and autotest in block condition due to system fault For PRO versions only, ARD and autotest in standby condition due to system fault
Periodic Autotest		1/0	*		OFF	Electric circuit check in progress Electric system supplied
Device fault	*IEST (*) A CR	0			ON	There is a fault in Restart device after testing RCCB. It is possible to restore the proper functions.
Device fault	* TEST * T	I			ON	There is a fault in Restart device after testing RCCB. It is possible to restore the proper functions.
Device failure		I	*		ON	ARD and autotest not working Call a technician for replacement
Device failure	* TEST * TEST	0	*		ON	ARD and autotest not working Call a technician for replacement

^(*) Before sliding the plastic cover to the left to activate the device, it is necessary to set the circuit breaker in the "I" position. NOTE: ReStart device can be in block condition (red led fixed) after 4 following trips too (t<60s after previous trip).

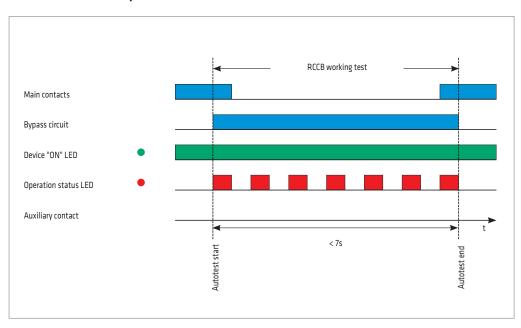
Key



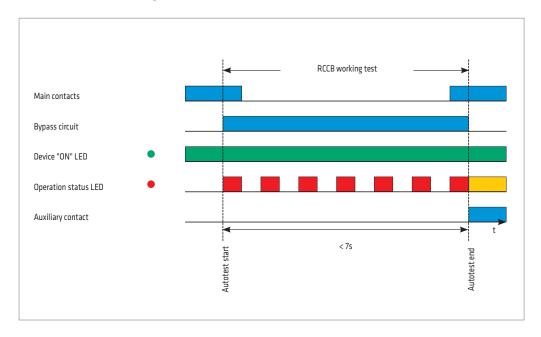


ReStart with Autotest operation conditions

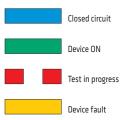
Autotest function with positive result



Autotest function with negative result

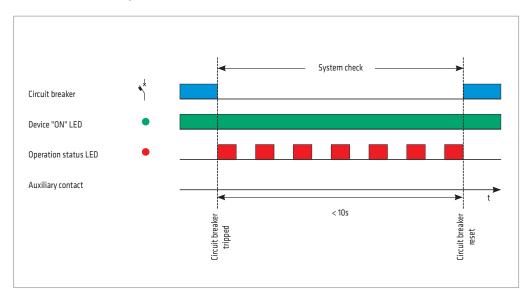




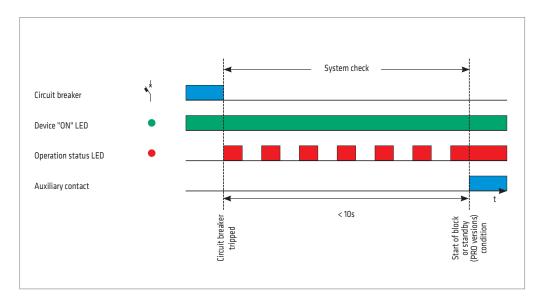


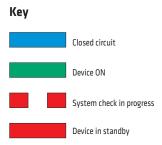


ReStart function with positive result



ReStart function with negative result







RESTART RD

Technical data

ТҮРЕ		ReStart Rd 2P	ReStart Rd PRO 2P	ReStart Rd PRO 4P		
Electrical characteristics						
Standards:			IEC EN 63024			
Distribution system:			TT - TN-S			
Rated operational voltage (Ue):	(V)		230 AC ⁽¹⁾			
Minimum operating voltage (min Ue)	(V)		85% Ue			
Maximum operating voltage (max Ue): Rated insulation voltage (Ui):	(V) (V)		110% Ue 500			
Dielectric strength test voltage between pole and earth:	(V)		2500 AC for 1 minute			
Rated impulse withstand voltage (Uimp):	(kV)		4			
Overvoltage category:			III			
Rated frequency:	(Hz)		50/60	50		
Residual making and breaking capacity (IΔm):	(A)		I∆m of the associated circuit breaker			
Rated conditional esidual short-circuit current with fuse (IΔc):	(A)		I∆c of the associated circuit breaker			
Number of poles:			2	4		
Type of IDP RCCB:	(8)		AC - A - A [IR] - A[S] -F -B			
Rated current (In): Rated residual operating current (I∆n):	(A) (mA)		25 - 40 - 63 - 80 30 - 100 - 300 - 500			
Rated residual operating current (IDN): Rated non-operating resistance between live parts and earth (Rdo):	(mA) (kΩ)		8 (30mA) - 2,5 (100/300/500mA)			
Rated operating resistance between live parts and earth (Rd):	(kΩ)		16 (30mA) - 5 (100/300/500mA)			
Power loss at In:	(W)		Power loss of the associated circuit breake	r		
Off-load absorbed power:	(VA)	3 (co	οςφ=0.4)	4 (cosφ=0.2)		
Power absorbed during automatic reclosing: Aechanical characteristics	(VA)	18 (c	:osφ=0.5)	45 (cosφ=0.5)		
Nidth in DIN modules:			1	3		
Reclosing time:	(s)		10			
	oper./h)					
Max mechanical endurance (total no. operations):		4000				
Maximum no. of consecutive automatic reclosure operations (2):	(-)	3				
Counter reset time no. of consecutive automatic reclosure operations:	(s) (mm²)	flexible cable: ≤ 1x35 - ≤ 2x16 - ≤ 1x16+2x10 rigid				
Circuit breaker rated tightening torque:	(Nm)	Cable: ≤ 1x35 - ≤ 2x1b - ≤ 1x1b+2x1U				
Mounting position:			any			
Circuit breaker degree of protection:			IP20 (terminals) - IP40 (front)			
Pollution degree:			2			
Operating temperature:	(°C)	-5 +40	-5 +60 ⁽³⁾	-25 +60 ⁽³⁾		
Stocking temperature:	(°C)		-40 +70			
Fropicalization:			55°C - RH 95%			
Auxiliary contact characteristics			voc (with CWD0054)	already integrated in the D.C.		
Can be fitted with auxiliary: Type of contact:		no -	yes (with GWD0951) Photomos (poten	already integrated in the ReSt		
ype or contact: Operating voltage:	(V)	-	5÷230			
Operating current:	(mA)	-	0.6 (min) - 100			
Operating frequency:	(Hz)					
Category of use:		- AC12				
Operating mode:		- NO\NC\NO as signal of handle position				
Ferminal section:	(mm²)					
Rated tightening torque:	(Nm)	n) - 0.4				
ReStart FUNCTION						
Automatic reclosure for untimely tripping:	• • •					
arth leakage check:		• •				
Continuous system check: nterruption of reclosure operation in the event of a fault:		•	•	•		
Signalling of reclosure operation in the event of a fault:		•	•	•		
ight signalling of failure:		•	•	•		
Activation / exclusion of RESTART function:		•	•	•		
Auxiliary contact for remote operating status access:			•	•		
Compatible with WiFi/ModBus interface module:			•	•		
Internal electrical protection:		PTC	PTC	PTC		

 $^{^{(}l)}$ Power supply 230V phase-neutral $^{(2)}$ In the absence of a system fault $^{(3)}$ Average daily temperature \leq +35°C



RESTART RM

Technical data

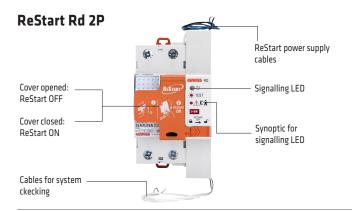
ТУРЕ	ReStart Rm 2P	ReStart Rm PRO 2P	ReStart Rm PRO 4P		СМ	
				«		
Electrical characteristics						
Standards:		IEC EN 63024			-	-
Distribution system: Rated operational voltage (Ue): (V)		TT - TN-S			TT - TN - IT ⁽¹⁾	TT-TN-IT
Minimum operating voltage (min Ue) (V)			230 A0 85% U			
Maximum operating voltage (max Ue): (V)			110% (
Rated insulation voltage (Ui): (V)			500			
Dielectric strength test voltage between pole and earth: (V) Rated impulse withstand voltage (Uimp): (kV)			2500 AC for 4	1 minute		
Rated impulse withstand voltage (Uimp): (kV) Overvoltage category:						
Rated frequency: (Hz)		50/60			50	
Residual making and breaking capacity (I∆m): (A)			I∆m of the associate	ed circuit breaker		
Number of poles: Type of MDC RCBO:		2	AC - A - A[IR]	Λ[C] E	4	
Type of MT+BD RCBO:		-	AC-A-A[IK]	- A[3] -F	AC - A - A[IR] - A[S]	
Rated current (In): (A)		from 6 to 32			from 1 to 63	
Rated residual operating current (IΔn): (mA)		30 - 300			30 - 300 - 500 - 1000	
Rated non-operating resistance between live parts and earth (Rdo): $(k\Omega)$ Rated operating resistance between live parts and earth (Rd): $(k\Omega)$		8 (30mA) - 2.5 (300m 16 (30mA) - 5 (300m			2.5 (300/500/1000mA)	-
Rated non-operating resistance between live parts (Rcco): (RI)		0.4	n)	0.3	- 5 (300/500/1000mA)	-
Rated operating resistance between live parts (Rcc):		2.3		1.8		-
Power loss at In: (W)			Power loss of the assoc			
Off-load absorbed power: (VA)		(cosφ=0.4)	16 (cosφ=0.2)		15 (cosφ=0.1)	0 (cosφ=0.2)
Power absorbed during automatic reclosing: (VA) Reclosing control:	18	(cosφ=0.5) automatic	34 (cosφ=0.7)		30 (cosφ=0.6) matic / remote ⁽³⁾	30 (cosφ=0.6 remote ⁽³⁾
Mechanical characteristics		automatic		auto	matic / remote	Terriote
Width in DIN modules:		1	3		4	2
Reclosing time: (s)		10		3 (without system test) 10 (with system test)		3
Remote control opening time: (s)		-	2			
Maximum operational frequency: (oper./h)			30			
Max mechanical endurance (total no. operations):		4000			10000	
Maximum no. of consecutive automatic reclosure operations (4): Counter reset time			3			-
No. of consecutive automatic reclosure operations: (s)		60				-
Section of circuit breaker terminals: (mm²)			flexible cable: ≤ 1x35 - ≤ 2		gid	,
Circuit breaker rated tightening torque: (Nm)			cable: ≤ 1x35 - ≤ 2x1 2	<u>6 - ≤ 1x16+2x1U</u>		
Mounting position:			any			
Circuit breaker degree of protection:			IP20 (terminals)	- IP40 (front)		
Pollution degree: Operating temperature: (°C)	-5+40	-5 +60 ⁽⁵⁾	2		5 +60 ⁽⁵⁾	
Operating temperature: (°C) Stocking temperature: (°C)		-5 +bU ⁽⁴⁾	-40 +7		5 +bU ⁽⁻⁾	
Tropicalization:			55°C - RH			
Auxiliary contact characteristics			1			
Can be fitted with auxiliary:	no	yes (with GWD0951)	already integrated in the ReStart	already integrated in the ReStart	already integrated in the ReStart	already integrate in the ReStart
Type of contact:	-	Photomos (poter	ntial free contact)	Changeover	Photomos (potential free contact)	Changeover
Operating voltage: (V)			AC/DC	230 AC/ 30 DC	5÷230 AC/DC	230 AC/ 30 DO
Operating current: (mA) Operating frequency: (Hz)		0.6 (min) - 100) cosφ=1 (max)	1.5 a.c. / 0.8 d.c. 50	0.6 (min) - 100 cosφ=1 (max)	1.5 a.c. / 0.8 d.
Operating frequency: (Hz) Category of use:	-			AC12		
Operating mode:	-	NO/NC/NO as signs	al of handle position	CO	NO/NC/ INTERMITTENT	СО
Terminal section: (mm²)		140 /140 /140 03 318110	o. nanale position	≤ 2.5		
Rated tightening torque: (Nm)				0.4		
ReStart Function		_	•		•	
ReStart Function Automatic reclosure for untimely tripping:	•	•	• •		•	
ReStart FUNCTION Automatic reclosure for untimely tripping: Earth leakage check:	•		•		•	
ReStart Function Automatic reclosure for untimely tripping: Earth leakage check: Short-circuit check:	•	•			•	
RESTART FUNCTION Automatic reclosure for untimely tripping: Earth leakage check: Short-circuit check: Adjustable insulation threshold: Continuous system check:	•	•			•	
RESTART FUNCTION Automatic reclosure for untimely tripping: Earth leakage check: Short-circuit check: Adjustable insulation threshold: Continuous system check: Adjustable reset standby time ⁽⁶⁾ :	•	•	•		•	
ReStart FUNCTION Automatic reclosure for untimely tripping: Earth leakage check: Short-circuit check: Adjustable insulation threshold: Continuous system check: Adjustable reset standby time ⁽⁶⁾ : Adjustable reclosing mode:	•	•	•		•	
ReStart FUNCTION Automatic reclosure for untimely tripping: Earth leakage check: Short-circuit check: Adjustable insulation threshold: Continuous system check: Adjustable reset standby time (%): Adjustable reclosing mode: Interruption of reclosure operation in the event of a fault:	•	•	•		•	
ReStart FUNCTION Automatic reclosure for untimely tripping: Earth leakage check: Short-circuit check: Adjustable insulation threshold: Continuous system check: Adjustable reset standby time ⁽⁶⁾ : Adjustable reclosing mode: Interruption of reclosure operation in the event of a fault: Signalling of reclosure operation in progress: Light signalling of failure:	•	•	•		•	
ReStart FUNCTION Automatic reclosure for untimely tripping: Earth leakage check: Short-circuit check: Adjustable insulation threshold: Continuous system check: Adjustable reset standby time (6): Adjustable reclosing mode: Interruption of reclosure operation in the event of a fault: Signalling of reclosure operation in progress: Light signalling of failure: Activation / exclusion of RESTART function:	•	•	•		•	•
ReStart FUNCTION Automatic reclosure for untimely tripping: Earth leakage check: Short-circuit check: Adjustable insulation threshold: Continuous system check: Adjustable reset standby time (6): Adjustable reclosing mode: Interruption of reclosure operation in the event of a fault: Signalling of reclosure operation in progress: Light signalling of failure:	•	•	•		•	•

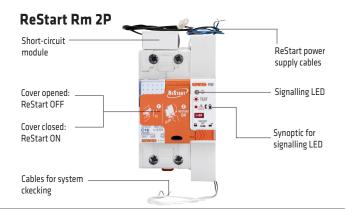
[©] For IT system reclosing without fault check
© Power supply 230V phase-neutral
FdPtelshapsanssonaviatethical Assistance Service or visit পুরুষ্কের বুলিয়ান্দ্রকাল eneutral

⁽³⁾ Impulse duration ≥ 200ms (6) Automatic reclosure delay time: 0-1h

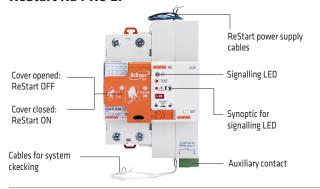


DEVICE DESCRIPTION



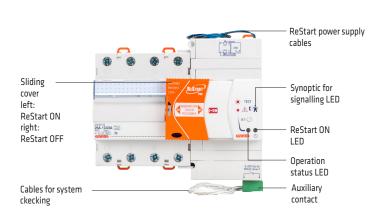


ReStart Rd PRO 2P

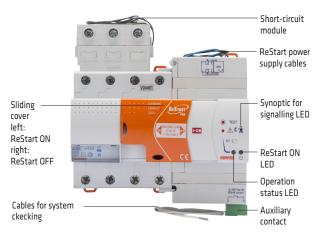




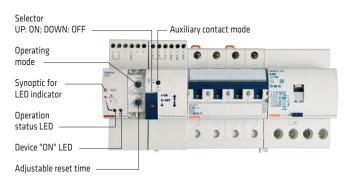
ReStart Rd PRO 4P



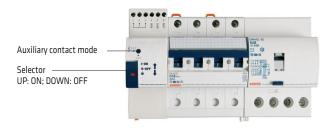
ReStart Rm PRO 4P



ReStart Rm TOP



ReStart Cm

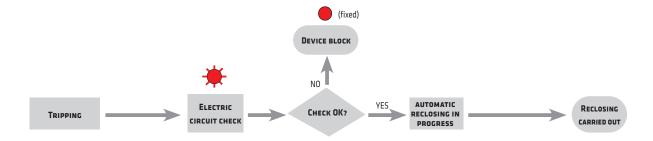




AUTOMATIC RECLOSING FUNCTION

ReStart Rd and Rm

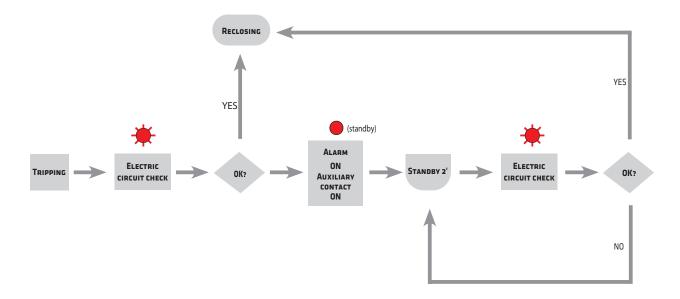
The automatic reclosing is carried out after an untimely tripping of the circuit breaker but only after an electrical circuit check. If a fault is found, the device sets itself on block condition and signals the fault by means of the front LED indicator.



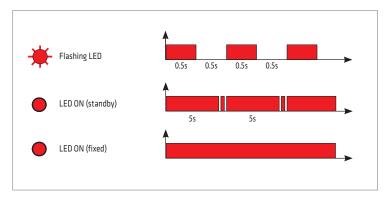
RESTART AUTOTEST, RD AND RM PRO VERSION

The circuit breaker is reclosed after an untimely tripping of the circuit breaker but only after a system check.

When the system check gives a negative result, the device goes into standby and signals this condition by means of the frontal LED indicator. System checks will then be carried out at 2' intervals, and the device will only reclose when the result of the test is positive. If no positive result is obtained, the device will remain in standby until the next test, or until a manual reset. The auxiliary contact signals the system fault.



KEY





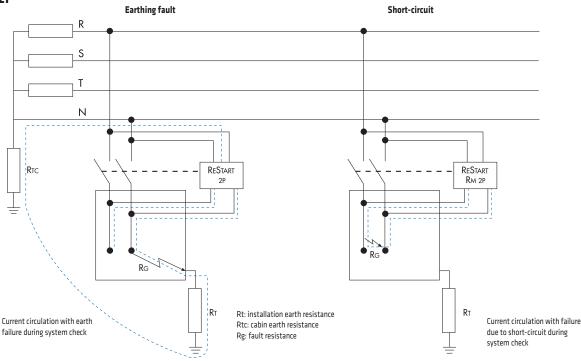
System fault check

Every device belonging to ReStart range is equipped with internal electronic circuit which is able to check the system and then to carry out the automatic reclosing of the circuit breaker if the value of the insulation resistance measured by the electronic circuit is compatible with the predefined safety values.

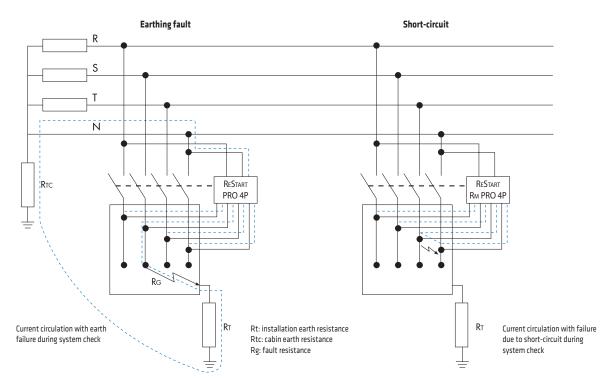
During the system check ReStart injects a pulsant unidirectional current type in order to check the status of the system. The intensity of this current is extremely low in order to guarantee always the people safety. The figures below are given as an example to show the route taken by the current during system check for TT distribution systems both single and three phase.

ReStart RM, in addition to the check of the insulation resistance, carries out a system short circuit check.

ReStart 2P



ReStart 4P





ReStart Rd and Rm light signalling

ReStart Rd and Rm are equipped with one LED on the front which shows the operation conditions of the device.

ReStart Rd

ReStart conditions	ReStart front	Lever position	Indicator LED	Description		
MANUAL OPERATION						
Deactivated	© 000000 NO 0000000 NO 00000000	I		Reset device 0FF		
Deactivated	CONTROL TO CO	0		Reset device 0FF		
		AUTOMATIC	OPERATING CYCLE (*)			
Normal operation	THE THE COMMENT TO TH	I		Reset device ON		
Electric circuit check	INSTITUTE OF THE PROPERTY OF T	0	*	Reset device in electric system insulation check condition .		
System failure	THE THIN COURSES TO COURSE TO COUR	0		Reset device in block condition due to low insulation of downstream electric system.		

^(*) Before sliding the plastic cover to the left to activate the device, it is necessary to set the associated circuit breaker in the "I" position. NOTE: ReStart device can be in block condition (red led fixed) after 4 following trips too (t < 60s after previous trip).

ReStart Rm

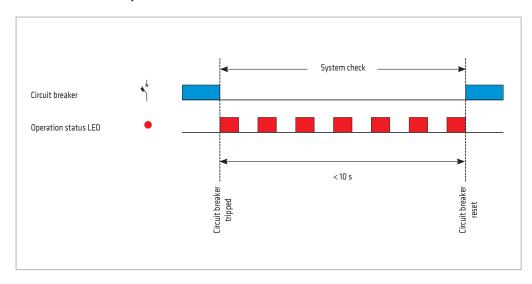
ReStart conditions	ReStart front	Lever position	Indicator LED	Description			
	MANUAL OPERATION						
Deactivated	CONVEST RIA O	I		Reset device OFF			
Deactivated	O O O O O O O O O O O O O O O O O O O	0		Reset device OFF			
		AUTOMATIC	OPERATING CYCLE (*)				
Normal operation	INSTANT CONTROL OF THE PARTY OF	I		Reset device ON			
Electric circuit check	INTERIOR OF THE PARTY OF THE PA	0	*	Reset device in electric system insulation and short-circuit check conditions.			
System failure	THE THE COUNTY IN THE COUNTY I	0		Reset device in block condition due to low insulation or short-circuiting fault of downstream electric system			

^(*) Before sliding the plastic cover to the left to activate the device, it is necessary to set the associated circuit breaker in the "I" position. NOTE: ReStart device can be in block condition (red led fixed) after 4 following trips too (t≤60s after previous trip).

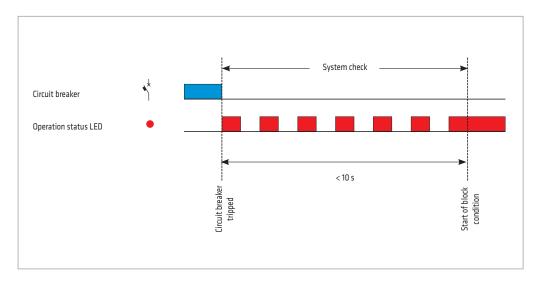


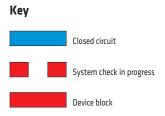
ResStart Rd and Rm operation conditions

ReStart function with positive result



ReStart function with negative result







ReStart Rd and Rm PRO light signalling for circuit breakers 2 poles

ReStart Rd and Rm PRO for circuit breakers 2 poles are equipped with one LED on the front which shows the operation conditions of device.

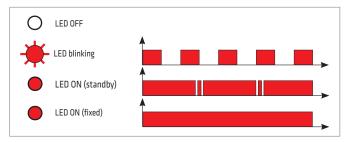
ReStart conditions	ReStart front	Lever position	LED indicators	Description				
	MANUAL OPERATION							
Deactivated	© © © © © © © © © © © © © © © © © © ©	I	0	Reset device OFF				
Deactivated	00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0		Reset device OFF				
		AUTOMATIC OPERA	TING CYCLE (*)					
Normal operation	1000000 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0	I		Reset device ON				
Electric circuit check	TEAL TO THE TEAL THE TEAL TO T	0	*	Reset device in system check condition.				
System insulation fault	ALS INTERPORT AND CONTRACT OF	0	(standby)	Reset device in standby conditions due to insulation fault of downstream electric system				

^(°) Before sliding the plastic cover to the left to activate the device, it is necessary to set the associated circuit breaker in the "I" position. NOTE: ReStart device can be in block condition (red led fixed) after 4 following trips too (t<60s after previous trip)

Specifically, Restart Rm PRO may have the following operation condition:

ReStart conditions	ReStart front	Lever position	LED indicators	Description
System short-circuit fault	TATE OF THE PROPERTY OF THE PR	0	(fixed)	Reset device in block condition due to short-circuit fault of downstream electric system

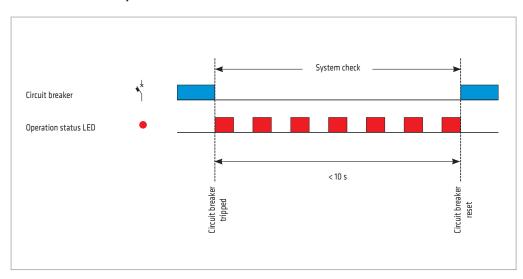
Key



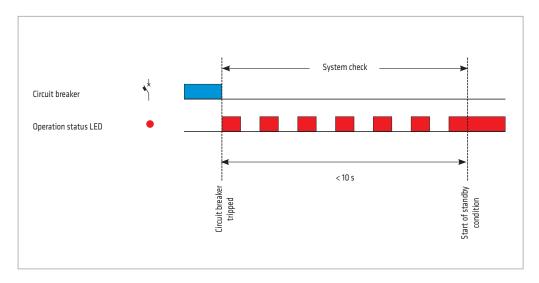


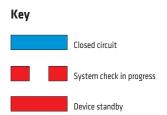
Restart Rd and Rm PRO operation conditions for circuit breakers 2 poles

ReStart function with positive result



ReStart function with negative result







ReStart Rd and Rm PRO light signalling for circuit breakers 4 poles

ReStart PRO for circuit breaker 4 poles is equipped with two LEDs on the front which show the operation conditions of device. The right-hand LED is switched on when the device is activated, and the left-hand LED shows the operation conditions.

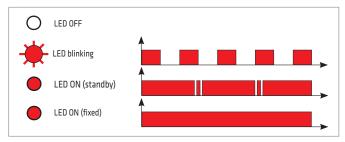
		Lever		LED indicators			
ReStart conditions	ReStart front	position	Left LED	Right LED	Aux contact	Description	
	MANUAL OPERATION						
Deactivated	1 1 0 2 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1	I			OFF	Reset device 0FF	
Deactivated for over 15 minutes	1 1 0 2 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1	I			ON	Reset device 0FF	
Deactivated		0			OFF	Reset device 0FF	
		AUTOMATI	C OPERATING (YCLE (*)			
Normal operation	TIST OF THE PROPERTY OF THE PR	I			OFF	Reset device ON	
Electric circuit check	THE	0	*		OFF	Reset device in system check condition.	
System insulation fault	THE	0	(standby)		ON	Reset device in standby conditions due to insulation fault of downstream electric system	

^(*) Before sliding the plastic cover to the left to activate the device, it is necessary to set the associated circuit breaker in the "I" position. NOTE: ReStart device can be in block condition (red led fixed) after 4 following trips too (t < 60s after previous trip)

Specifically, Restart Rm PRO may have the following operation condition:

DeCtout and dislana	ReStart front	Lever		LED indicators	Description .	
ReStart conditions	Restart front	position	Left LED	Right LED	Aux contact	Description
AUTOMATIC OPERATION						
System short-circuit fault	** HSI ** A C ** A ST O O O O O O O O O O O O O O O O O O	0	(fixed)		ON	Reset device in block condition due to short-circuit fault of downstream electric system

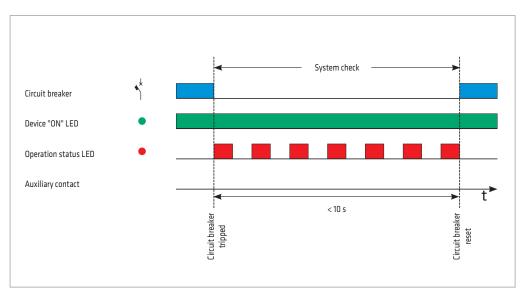
Key



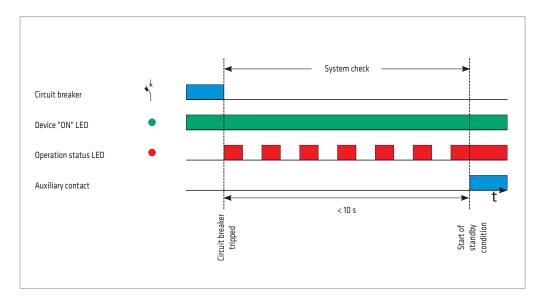


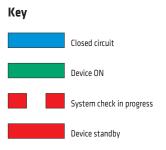
Restart Rd and Rm PRO operation conditions for circuit breaker 4 poles

ReStart function with positive result



ReStart function with negative result







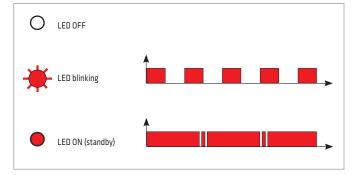
ReStart Rm TOP light signalling

ReStart Rm TOP is equipped with two LEDs on the front which show the operation conditions of the device. In addition, by adjusting the two trimmers you can select the operation mode.

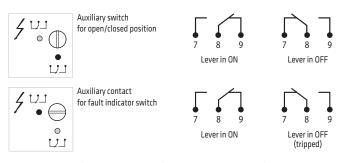
					dicators		
ReStart conditions	ReStart front	Lever position	Left LED	Right LED	Aux contact 1	Aux contact	Description
	MANUAL OPERATION						
Deactivated	** E21	I			OFF	ON (OFF)*	Device OFF
Deactivated	STATE OF THE STATE	0			OFF	OFF	Device OFF
		AUTOMAT	TIC OPERATI	NG CYCLE			
Normal operation	With the second	ı			OFF	ON	Device ON
Electric circuit check	**************************************	0	*		OFF	OFF	Device in system check condition
System failure	#:E31	0			ON	OFF	Device in standby due to system fault

^(*) If it has been set as fault indicator switch.

Key

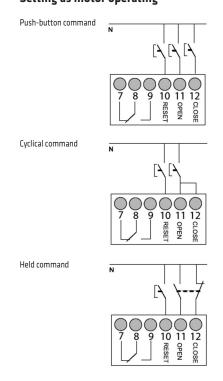


Setting of Aux contact 2



NOTE: to change the function Aux contact 2, from open/closed position to fault indicator switch and viceversa, it's required to turn the selector by screwdriver and to make an automatic reclosing cycle.

Setting as motor operating



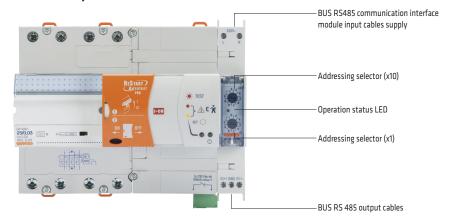


BUS RS485 Communication interface module

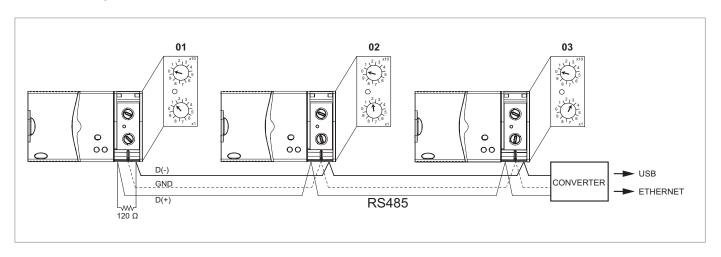
Technical data					
Code:		GW90992			
Rated operational voltage (Ue):	(V)	230 a.c.			
Minimum operating voltage (min Ue):	(V)	85% Ue			
Maximum operating voltage (max Ue):	(V)	110% Ue			
Rated impulse voltage (Uimp):	(kV)	4			
Rated frequency:	(Hz)	50			
Width in DIN modules:		1			
Communication protocol:		modbus RS485			
Number of addresses:		1÷99			
Transmission speed:		38.400 baud rate			
Coupled with:		ReStart with Autotest (2 e 4 pole) ReStart Rm PRO (4 pole) ReStart Rd PRO (4 pole)			
Rated tightening torque:	(Nm)	0,4			
Power loss:	(W)	1			
Degree of protection:		IP20			
Operating temperature:	(°C)	-25+60 ^(t)			
Maximum conductor cross section:	(mm²)	2,5			
Sealable:		yes			

⁽¹⁾ Average daily temperature ≤ +35°C

Device description



Connection example





WI-FI COMMUNICATION INTERFACE MODULE

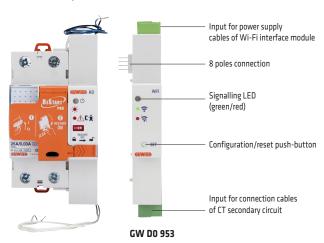
			Technical data				
Code:		GWD0953	GW90953	GW90945	GW90954		
Coupled with:	ed with:		ReStart Autotest PRO 2P	ReStart Rd PRO 4P / ReStart Rm PRO 4P	ReStart Autotest PRO 4P		
Measurament of electrical parameters:		Yes	Yes	No	No		
Standard:		EN 61326-1; EN 30	11489-1; EN 301489-17	EN 301489-	EN 301489-1; EN 301489-17		
Rated operational voltage (Ue):	(V)	230/240 V a.c.					
Rated insulation voltage (Ui):	(V)	500					
Rated impulse voltage (Uimp):	(kV)	4					
Rated frequency:	(Hz)	50					
Width in DIN modules:		1					
Minimum operating system requirements	s:	Android 4.4 / iOS 9					
Transmission WiFi speed:		2.4					
Maximum distance WiFi coverage:		100m without barriers (direct to router device) 80m without barriers (others directions)					
Rated tightening torque:	(Nm)	0,4					
Power loss:	(W)	1,6					
Operating temperature:	(°C)	-25 +60 ^(t)					
Stocking temperature:	(°C)	-40 +70					
Maximum conductor cross section:	(mm²)	2,5					
Maximum CT cable cross section:	(mm²)	25					
Maximum current measured:	(A)	80					

 $^{^{(1)}}$ Average daily temperature $\leq +35^{\circ}\text{C}$

Wi-Fi module	ReStart Rd and ReStart Rm PRO version		ReStart Autotest PRO		Information by means APP		
	2P	4P	2P	4P	System and devices status	Consumptions	Autotest function by remote
GWD0953	✓				✓	✓	
GW90945		✓			1		
GW90953			✓		1	✓	✓
GW90954				1	1		1

The Wi-Fi modules GWD0953 and GW90953, coupled with ReStart 2P PRO versions and ReStart Autotest 2P, allow to know the values of voltage, current, active and reactive power, energy produced and consumed.

Device description



Thanks to ReStart Wi-Fi App, it is possible to remotely monitor the operating status of the electrical system.







Application examples

ReStart PRO and ReStart Rm TOP

With Restart PRO it is possible to monitor the insulation level after tripping for an indefinite period of time (until acceptable values are obtained and the automatic reset operation is performed). This control system is indispensable where the system's insulation level can suddenly drop, due to weather conditions, and then rise thus allowing reset operations once optimal conditions are re-established.

	SPECIFICATIONS	TYPICAL SYSTEMS
OUTDOOR SYSTEMS	 Exposure to atmospheric disturbance Insulation levels depending on weather conditions (temperature and humidity) Presence of electronic power supplies Extensive damage due to blackout Difficult accessibility of electrical circuit 	 Lighting in public places Outdoor lighting in gardens and squares Sporting facilities Traffic lights Signalling Pollution control stations Telecommunication installations Radio links Traffic-information panels Advertising hoardings
INDOOR SYSTEMS	 Strong presence of electronic power supplies Extensive damage due to blackout Need for guaranteed service continuity Sensitivity to disturbance induced by mains supply and by atmospheric conditions Insulation levels depending on weather and operating conditions 	 Small, medium, and large tertiary sector Industrial plants Data processing centres Garages Pumping systems Catering Supermarkets Ice-cream shops Alarm system protection CCTV system protection Access monitoring system protection Door and automatic gate protection



Dimension tables

