

Relay Adaptor System

Based on the flexible Siemens Reyrolle 7SR11 Non-Directional Overcurrent Relay, the RF119 Adapter Modules allows the replacement of obsolete draw-out protection relay modules without disturbing the existing relay case or wiring.

- > Based on the Siemens Reyrolle 7SR11 relay
- > Custom wiring configuration
- > Retrofit Reyrolle Argus Epsilon Series
- > Retrofit Reyrolle Argus DCD Series
- > Retrofit Alstom Midos K Series
- > Made in Australia



Features

- > Integrated draw-out handles
- > Provision for custom front panel labelling
- > Custom terminal wiring to suit relay version
- > Replacement molded front cover
- > Integrated EMC shielding
- > Mechanical integrity to with IEC60255-21

Application

Designed as a direct replacement for the 7SG1114 Argus Overcurrent relay or KCGG140, there are 3 variations of the RF119, to suit the 7SG1114 Reymos Case, the 7SG1114 Epsilon case or the KCGG140 Midos case. The RF119 provides a simple plug in replacement to allow a direct connection between the 7SR1103 and the Reymos/Epsilon 7SG1114 case terminals or the Midos KCGG140 case terminals. The relay comes with a handle for easy withdrawal. A transparent fascia cover is also provided which attaches to the case of the original relay securing the semi projecting part.

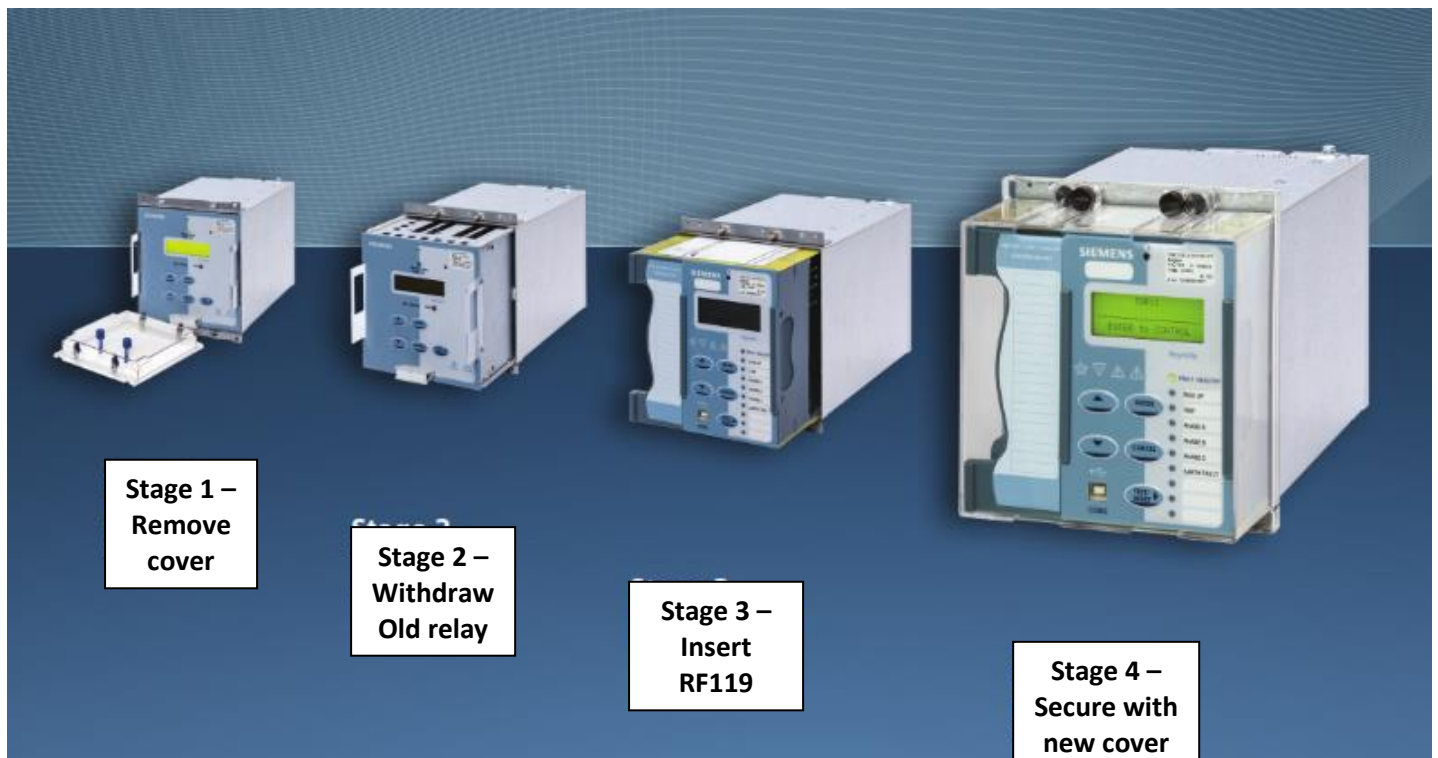
Description

The RF119 is part of the Argus family of products and allows a quick upgrade of older generation relays to the latest hardware technology without the need for installing a new case or wiring in a substation. The RF119 adapter houses a 7SR1103 four-pole non-directional overcurrent protection relay and provides a simple plug in replacement for direct connection to existing case terminals. The adapter relay provides protection, monitoring, instrumentation and metering with integrated input and output logic, data logging & fault reports. Communication access to the relay functionality is via a front USB port for local PC connection.

7SR11

For details on the 7SR11 relay employed in the RF119, refer to the Siemens web site:

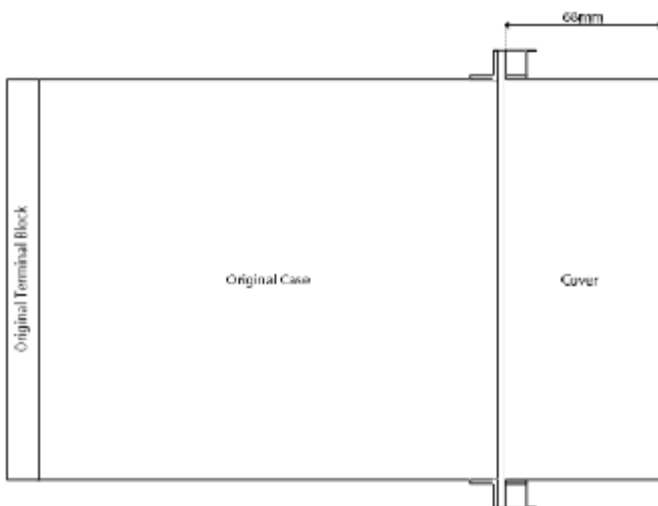
www.reyrolle-protection.com



Construction

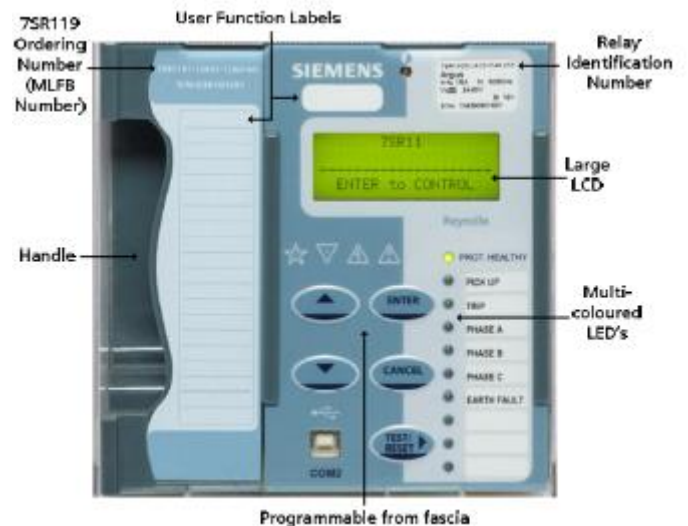
The 7SR119 is housed in the original case of the relay it is replacing. A transparent plastic fascia cover comes with the relay and attaches to the case of the original relay to cover the semi projecting part of the 7SR119 from the case. A plastic handle to the left of the projecting section allow the complete 7SR119 to be withdrawn from the case, when the cover is removed. Contacts in the case ensure that the CT circuits and normally closed contacts remain short circuited when the relay is withdrawn.

Semi Projection Dimensions



User Interface

The operator interface is designed to provide a **user-friendly** method of controlling, viewing menus, entering settings and retrieving data from the relay. Five buttons are provided for navigation around the menu structure.



LCD

A 4-line by 20-character liquid crystal display with power save operation indicates the relay identifier, settings, instrumentation, fault data and control commands. Up to 6 user programmable general alarms can be configured to display your own indications on the LCD.

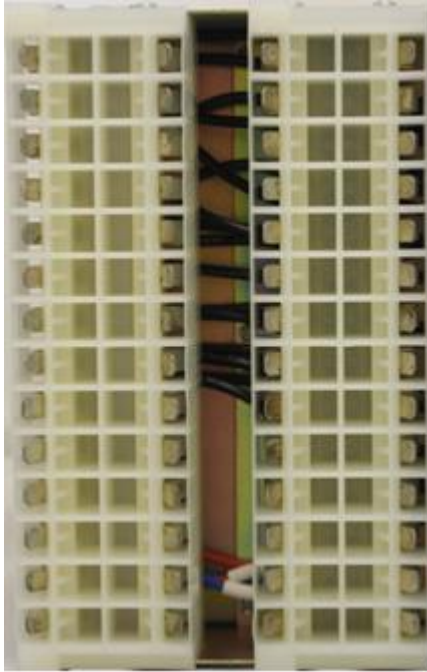
LED's

A green steadily illuminated LED indicates the 'Protection Healthy' condition. 9 user programmable LEDs are available eliminating the need for expensive panel mounted pilot lights and associated wiring. Each LED is tri-colour (red, green, yellow) allowing for clear indication of the associated function's state and has a label insert for identification.

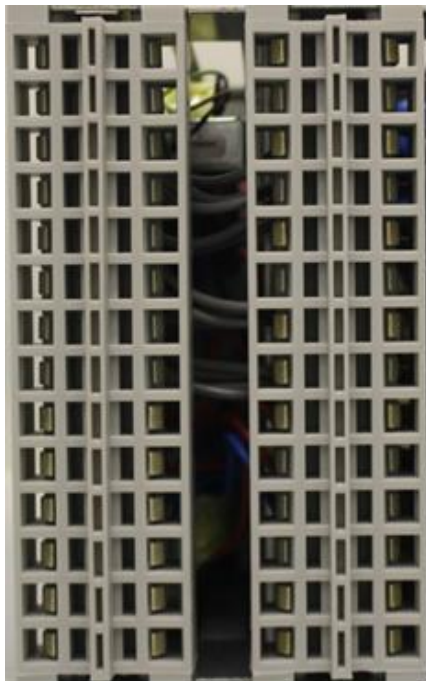
Relay Information

The user can give the device its own identity by editing the 'Relay Identifier' displayed on the LCD or space is provided to place a slip-in label giving the relays function.

Rear view of Reymos Inner Terminal Blocks



Rear view of Epsilon Inner Terminal Blocks



Temperature

Standard	IEC 60068-2-1/2
Operating Range	-10 to +55 degrees Celsius
Storage Range	-25 to +70 degrees Celsius

Humidity

Standard	IEC 680068-2-78
Operating Range	40 degrees Celsius and 93% RH non condensing

IP Rating

Standard	IEC 60529
Installed	IP5x

Vibration - Sinusoidal

Standard	IEC 60255-21-1 Class I	
Vibration Response	0.5gn	≤5%
Vibration Endurance	1.0gn	≤5%

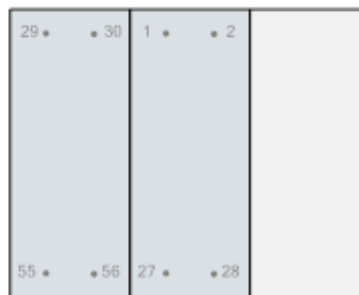
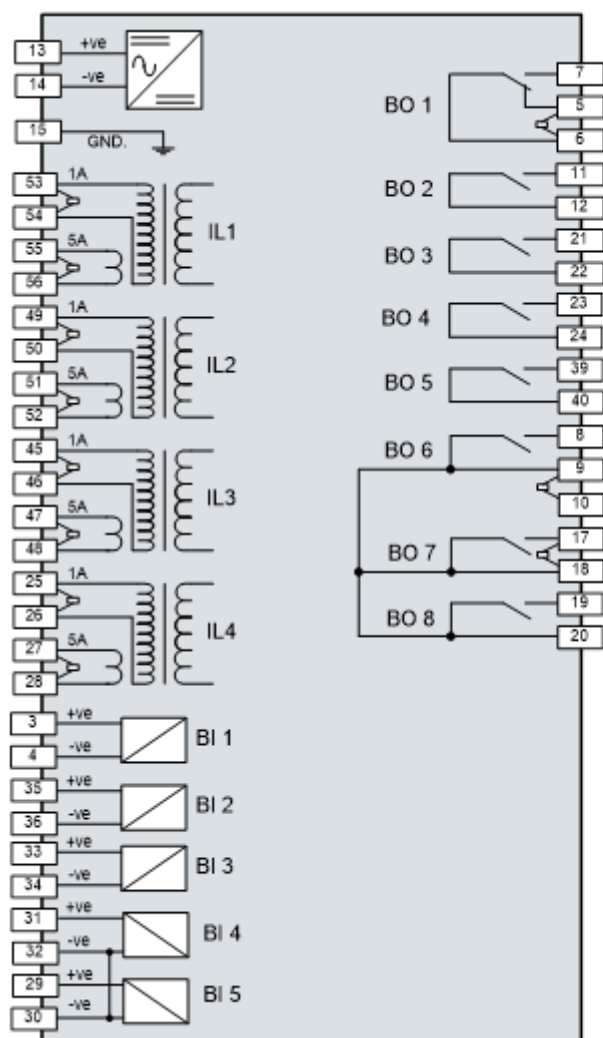
Shock and Bump

Standard	IEC 60255-21-2 Class I	
Shock Response	5gn, 11ms	≤5%
Shock Withstand	15gn, 11ms	≤5%
Bump Test	10gn, 16ms	≤5%

Seismic

Standard	IEC 60255-21-3 Class I	
Seismic Response	1gn	≤5%

RF119-1 / RF119-2



Rear View

Arrangement of terminals and modules

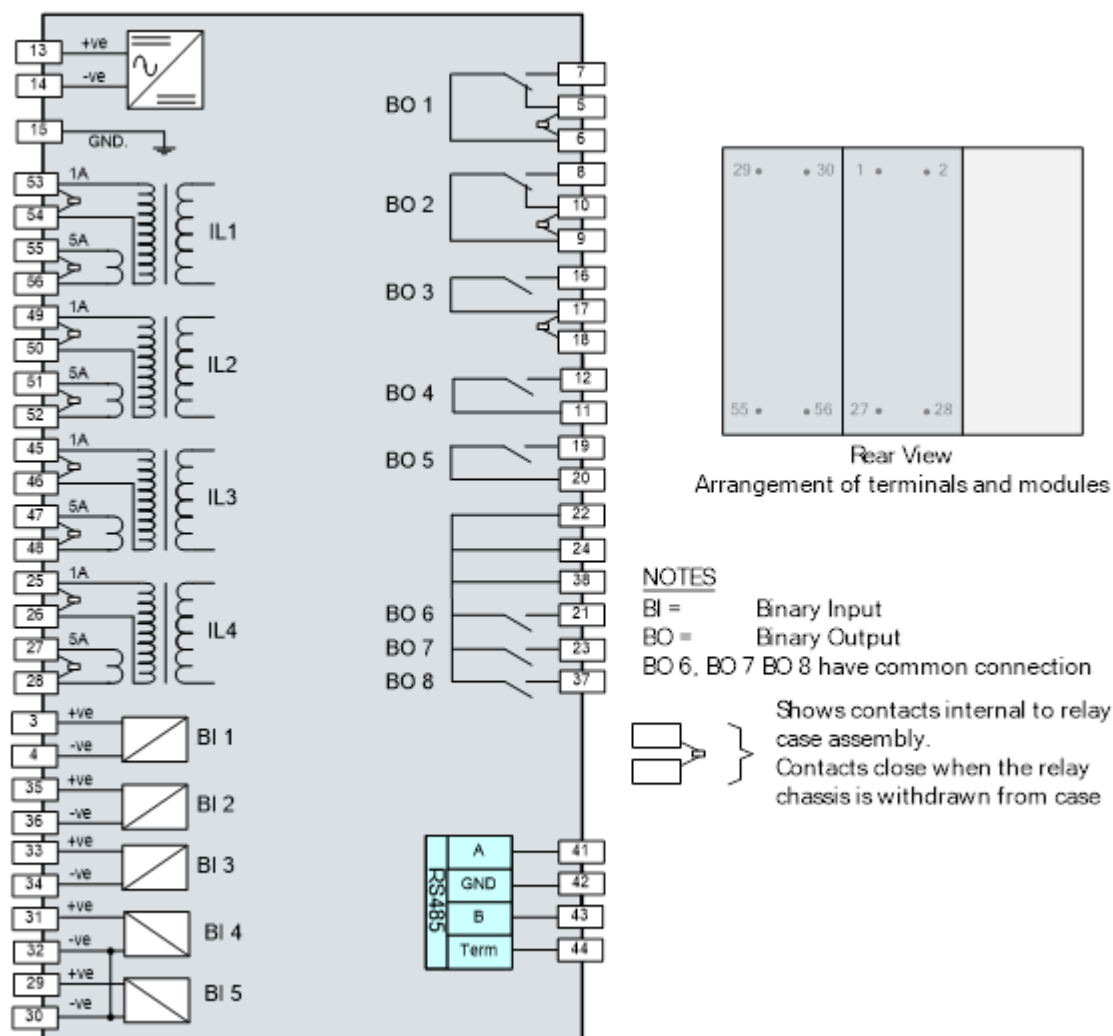
NOTES

- BI = Binary Input
- BO = Binary Output
- BO 6, BO 7, BO 8 have common connection



Shows contacts internal to relay case assembly.
 Contacts close when the relay chassis is withdrawn from case

RF119-4



Enquiry Data

Due to the large variation of relay models built over many years, careful analysis of the existing installation is required to ensure a trouble-free change over process. To assist in defining the adaptor panel replacement details, the following form should be filled with all information available and submitted with the initial enquiry to sales.rms@wabtec.com

Project Scope

Project name:		
Contact details:		
Geographic Region:		
Relay installation:	End User	
Project quantity:		
Date required:		
Unit required for evaluation?	Yes / No	
Comments:		

Existing Relay

Article number:	ARG1-103, DCD411B, etc...	
Siemens MLFB code:	7SG111.....	
Serial Number:	1012345/67	
Terminal block:	Epsilon or Reymos	
Case colour:	Silver, black, yellow, blue....	
Case size:	4 or 6	
I/O configuration:	1/7, 3/5, 5/11, 9/7	
CT configuration:	1P+EF, 1P+SEF, 3Ph+EF, 3Ph+SEF	
Auxiliary supply voltage rating:	Refer relay rating plate	
Rear communication port type:	F/O, RS485...	
Rear communication port used?	For configuration / SCADA	
Wiring diagram number:	2434W50001	
System wiring diagram attached:	Yes / No	
Face plate image supplied:	Yes / No	
Rear wiring image supplied:	Yes / No	

Retrofit Relay

Order Code:	Refer following page	RF119-
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RF119 Order Codes

		1	2	3	4	5	6	7	8	9	10	11	12				
ORDER CODE		R	F	1	1	9	-			A	0	0	-	1		A	0
Protection Product Family			1	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Overcurrent - Non Directional			1	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Relay Type			2	:	:	:	:	:	:	:	:	:	:	:	:	:	:
7SR1103 housed in adapter case			9	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Original Relay / Case Size / Available 7SR11 Comms / I/O and Fascia			3	:	:	:	:	:	:	:	:	:	:	:	:	:	:
7SG1114 / Reymos R6 Case ⁴⁾ / No rear Comms, USB front port / 4 CT, 5 Binary Inputs / 8 Binary Outputs (inc. 1 CO), 10 LEDs			1	:	:	:	:	:	:	:	:	:	:	:	:	:	:
7SG1114 / Epsilon E6 Case ⁴⁾ / No rear Comms, USB front port / 4 CT, 5 Binary Inputs / 8 Binary Outputs (inc. 1 CO), 10 LEDs			2	:	:	:	:	:	:	:	:	:	:	:	:	:	:
7SG1114 / Epsilon E6 Case ⁵⁾ / RS485 rear port ¹⁾ , USB front port / 4 CT, 5 Binary Inputs / 8 Binary Outputs (inc. 2 CO), 10 LEDs			4	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Measuring input			4	:	:	:	:	:	:	:	:	:	:	:	:	:	:
1 A / 5 A, 50 Hz / 60 Hz ²⁾			1	:	:	:	:	:	:	:	:	:	:	:	:	:	:
1 A / 5 A, 50 Hz / 60 Hz with SEF input ³⁾			3	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Auxiliary voltage			5	:	:	:	:	:	:	:	:	:	:	:	:	:	:
PSU Rated: 24-250V DC / 100-230V AC. Binary input threshold 19V DC (Rated: 24-250V DC / 100-120V AC)			M	:	:	:	:	:	:	:	:	:	:	:	:	:	:
PSU Rated: 24-250V DC / 100-230V AC. Binary input threshold 88V DC (Rated: 110-250V DC)			N	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Spare			6	:	:	:	:	:	:	:	:	:	:	:	:	:	:
			A	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Spare			7	:	:	:	:	:	:	:	:	:	:	:	:	:	:
			0	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Spare			8	:	:	:	:	:	:	:	:	:	:	:	:	:	:
			0	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Front Cover			9	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Standard Version - No Push Buttons			1	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Protection Function Packages			10	:	:	:	:	:	:	:	:	:	:	:	:	:	:
For future development			B	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Standard version			C	:	:	:	:	:	:	:	:	:	:	:	:	:	:
37	Undercurrent			:	:	:	:	:	:	:	:	:	:	:	:	:	:
46BC	Broken conductor/load unbalance			:	:	:	:	:	:	:	:	:	:	:	:	:	:
46NPS	Negative phase sequence overcurrent			:	:	:	:	:	:	:	:	:	:	:	:	:	:
49	Thermal overload			:	:	:	:	:	:	:	:	:	:	:	:	:	:
50	Instantaneous phase fault overcurrent			:	:	:	:	:	:	:	:	:	:	:	:	:	:
50BF	Circuit breaker fail			:	:	:	:	:	:	:	:	:	:	:	:	:	:
50G/50N	Instantaneous earth fault			:	:	:	:	:	:	:	:	:	:	:	:	:	:
50 SEF ³⁾	Instantaneous Sensitive Earth Fault			:	:	:	:	:	:	:	:	:	:	:	:	:	:
51	Time delayed phase fault overcurrent			:	:	:	:	:	:	:	:	:	:	:	:	:	:
51G/51N	Time delayed earth fault			:	:	:	:	:	:	:	:	:	:	:	:	:	:
51 SEF ³⁾	Time Delayed Sensitive Earth Fault			:	:	:	:	:	:	:	:	:	:	:	:	:	:
60CTS	CT Supervision			:	:	:	:	:	:	:	:	:	:	:	:	:	:
64H	High impedance REF			:	:	:	:	:	:	:	:	:	:	:	:	:	:
74T&C	Trip & Close circuit supervision			:	:	:	:	:	:	:	:	:	:	:	:	:	:
51c	Cold load pickup			:	:	:	:	:	:	:	:	:	:	:	:	:	:
81HBL2	Inrush Restraint			:	:	:	:	:	:	:	:	:	:	:	:	:	:
86	Hand reset contacts			:	:	:	:	:	:	:	:	:	:	:	:	:	:
	Programmable Logic			:	:	:	:	:	:	:	:	:	:	:	:	:	:
79	Autoreclose			:	:	:	:	:	:	:	:	:	:	:	:	:	:
				:	:	:	:	:	:	:	:	:	:	:	:	:	:
Additional Functionality			11	:	:	:	:	:	:	:	:	:	:	:	:	:	:
No additional functionality			A	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Spare			12	:	:	:	:	:	:	:	:	:	:	:	:	:	:
			0	:	:	:	:	:	:	:	:	:	:	:	:	:	:

¹⁾ IEC 60870-5-103, Modbus RTU and DNP3. (user selectable settings)

²⁾ 4CT is configured as 3PF + EF

³⁾ 4CT is configured as 3PF + SEF/REF (user selectable setting).

⁴⁾ SPPG Standard Wiring

⁵⁾ Universal Wiring



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ISO9001 Quality Accreditation

RMS holds BSI (British Standards Institution) registration number FS 604860 for the certification of a quality system to AS/NZS ISO9001:2008.

Due to RMS continuous product improvement policy the information contained in this document is subject to change without prior notice.

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