Reyrolle
Protection
Devices

7XG3127 – RA27

Arc Fault Monitor with Linear Sensor Input

Energy Management

SIEMENS

7XG3127 – RA27

Arc Fault Monitor with Linear Sensor Input

Features

High speed arc fault detection for metal clad air insulated switchgear utilizing optical sensors.

- Less than 5ms arc detection and tripping time
- Four (4) point sensor inputs
- Optional linear sensor input
- Compact case, size 2, 2U high
- Surface or rail mount
- Flush panel or rack mount
- Three high speed tripping zone outputs
- Front panel reset
- Continuous arc sensor supervision
- Integrated self-supervision with fail alarm
- Contact
- Three (3) auxiliary supplies ranges available covering 24-125V ac or dc and 220 to 250 Volts dc nominal

Overview

Arc fault protection is employed for the clearance of arcing faults on low voltage panels, MCC's, Busbars and within metal clad switchgear and associated cable boxes.
Conventional current based protection techniques are at times challenged by the nature of arcing faults and can result in slow protection clearance times. Slow protection clearance times increase the risk of injury to nearby personnel and increase the degree of damage to plant and equipment.
By employing an optical detection technique, Arc Protection, results in fast clearance of arcing faults. When fitted in either new installations or as a simple retrofit in existing installations, the RA27 provides high speed detection and signalling of arc flash hazards.
Arc Fault protection schemes may be implemented on an Arc only basis, or alternatively a Current Check may be employed where additional security is warranted.
A current checked scheme may be implemented by making use of available protection relay logic and a fast acting instantaneous overcurrent element.

Description

The 7XG3127 Reyarc monitor device is packaged in a compact 2U high case that may be flush panel, rack or rail mounted.

The 7XG3127 device can use upto 4 point sensors (7XG3130) and a single optical linear sensor (7XG3140), with 3 high speed output tripping zones.

A plug in terminal block is provided to allow panel pre-wiring.

Healthy LED's
A front panel green LED is provided to indicate when the relay is powered up and all connected arc sensors are operating correctly. Should any of the sensors become disconnected the associated red supervision LED will be illuminated. Healthy sensors will continue to operate normally.

Supervision Alarm Contact
The supervision alarm contact is picked-up when all monitored circuits are in the HEALTHY condition. FAILURE of a supervision circuit will cause the alarm contact to drop out to signal an alarm condition.

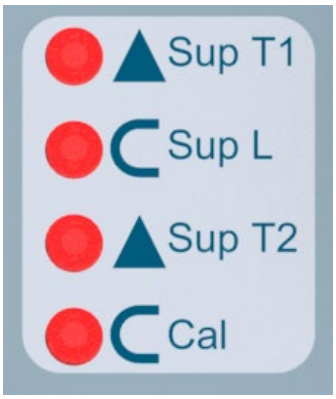


Figure 1: Supervision LED Indication arc fault monitor

Arc Trip Indication
A red LED is provided to indicate an arc trip event zone and the type of sensor to assist with fault location.

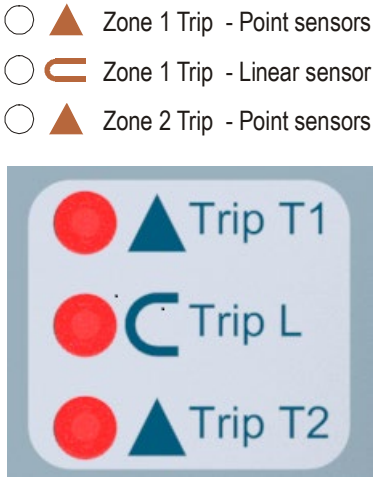


Figure 2: Trip LED Indication arc fault monitor

This trip indication will remain latched until the front reset slide or the remote reset input is activated. The associated output trip contact(s) will also operate and self-reset in 1s.

Reset Slide Switch
The reset slide switch is used for a number of functions:

- Reset trip LED's (Fast operate and release)
- Re-start the device when held for >2s
- To gain access to the rotary configuration switch

Calibration Indication
The Cal LED will commence flashing if the linear sensor fails the automatic calibrate routine.

Display Relay Settings
To review the relay settings, lift and hold the reset slide switch until a combination of LED's commence flashing.
7XG3127-1 relay LED's for the trip and sensor configuration will be displayed in accordance with table 1
7XG3127-2 relay LED's for the trip and sensor configuration will be displayed in accordance with table 1 and alternating with the linear sensor transmission length in accordance with table 2

Components

The 7XG3127 is designed to monitor remote optical sensors that to respond to the flash of light emitted during the incidence of an arcing fault. Onset of the light flash & detection by the sensors occurs in a few ms.

Arc Sensors

7XG3130 Point Sensor RA30
The RA30 is an electrically wired point sensor suitable for application in discrete compartments in metal clad switchgear and cable ducts. When an arc is detected, the resistance presented drops to a level where the current flow increases to approximately 20mA. This increased current flow is instantaneously detected by the relay & its trip output contacts close. Refer to the 7XG3130 Technical Catalogue for further details.

Figure 3: 7XG3130 Point Sensor

7XG3140 Linear Sensor RA40
The linear sensor may be applied to protect large volumes where multiple point sensors would otherwise be required. A separate

Figure 4: 7XG3140 Linear Sensor

linear sensor is required for each segregated protection zone. Refer to the 7XG3140 Technical Catalogue for further details.

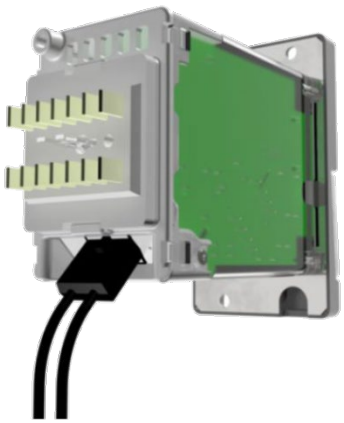


Figure 5: Linear sensor connection to arc fault monitor

Application

Switchgear ARC Flash Protection

Risk of arc fault damage exists at the CB cable termination and in the CB chamber itself. The CB cable termination is particularly at risk to ingress of moisture and rodent damage.
Upto 4 point arc sensors may be connected to the Arc Fault Monitors.
Figure 6 shows an application where a single device is applied for the protection of the Cable box, CT chamber and CB chamber using three sensors. In this configuration one arc trip output is used to trip the feeder circuit breaker in the event of an arc fault in the cable box / CT chamber. The second trip output is set for independent operation to trip the BUS breaker (BUS overcurrent check not shown), in the event of an arc fault in the CB chamber.

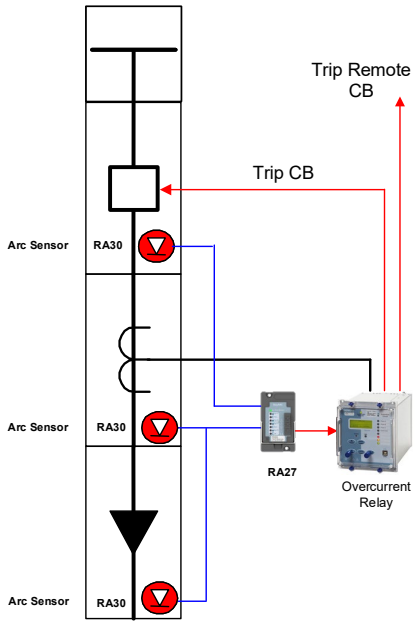


Figure 6: Arc point sensors with current check

Arc Fault Tripping Using Current Check

Fast operation of a tripping scheme usually results in reduced system security. The arc detection method can however, combine the 7XG3127 optical detection technique with a traditional overcurrent method to maximize system security particularly for BUS bar protection schemes. Both conditions must coexist for the trip condition to be met as depicted in figure 7.

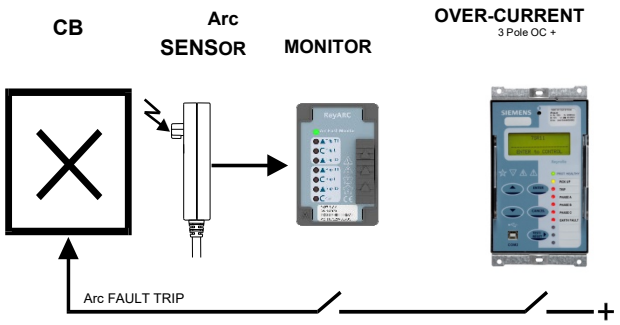


Figure 7: Arc sensor with current check

As the arc fault trip contact picks up considerably faster than the overcurrent relay element, the CB trip time will be dictated by the overcurrent relay performance.

Low Current Arcing Faults

Arcing faults can occur at low current levels & it is possible for the over-current starter element to be set above this level when an independent ARC OC element is not available. To avoid this problem & obtain very fast clearance (<10ms), of an arc fault, the 7XG3127 arc fault trip contact may be wired directly to the breaker operate coil. It should be noted that this method may lead to reduced system security.

Existing Switchgear Applications

The existing overcurrent relay protecting the feeder will normally provide an independent output contact associated with the start current setting of the relay. This output contact will close when a phase or earth fault current is detected above the threshold which starts the internal relay timers. This starter element should be set for instantaneous operation so that it will pick up in the order of 10-15ms.
An Arc Fault Monitor relay is installed on the switchgear panel adjacent to the protection relay. The 7XG3127 is specifically designed for simple retrofit to existing panels or DIN rail mounted within the instrument chamber.
The overcurrent relay starter contact may optionally be wired in series with the arc fault detection trip output contact as depicted in Figure 6. The resulting “AND” function trip output is wired to initiate breaker trip in 10-15ms in the event that an arc fault is detected while the overcurrent start element is picked up.

New Switchgear Applications

For new switchgear installations a modern numeric feeder protection relay is likely to be employed which will have numerous programming and configuration options.
The basic concept is the same as for the existing switchgear application described above except that the additional features and flexibility of modern feeder protection relay allows improved system integration.

Arc Detection Reset Time

(Effect of multiple arc trips)
A delay of 2s is required to reset the 7XG3127 after an initial arc sensor trip. Subsequent arc detection will cause the trip output contacts to re-operate.

Arc Sensor Continuously Picked Up

High ambient light levels may cause a RA30 or RA40 to be continuously picked up. This condition could occur for example if the CB cable box cover was left open in very high ambient light level conditions.
To avoid possible mal operation due to this condition, the device is designed to automatically disable the arc fault tripping function if any sensor input is picked up for >10s. The alarm contact will be set & the front LED flash alternate orange & red until the ambient light level problem is corrected. The 7XG3127 will then perform an arc sensor test function & automatically reset

Combined Bus Bar and Switchgear Arc Protection

Figure 8 shows an application where a single device is applied for the protection of the Cable box and CT chamber plus the CB chamber and BUS chamber using a linear sensor.
In this configuration one arc trip output is used to trip the feeder circuit breaker in the event of an arc fault in the cable

box / CT chamber. The second trip output is set for independent operation to trip the BUS breaker (BUS overcurrent check stage not shown), in the event of an arc fault in the CB chamber or BUS chamber.

Hardware Code and Configuration Settings

For the scheme depicted in Figure 8 to function correctly, the 7XG3127 arc fault modules need to be specified and configured as follows:

Symbol	Model	Configuration
A1	7XG3127-1	1
A6	7XG3127-1	7
B1	7XG3127-2	1

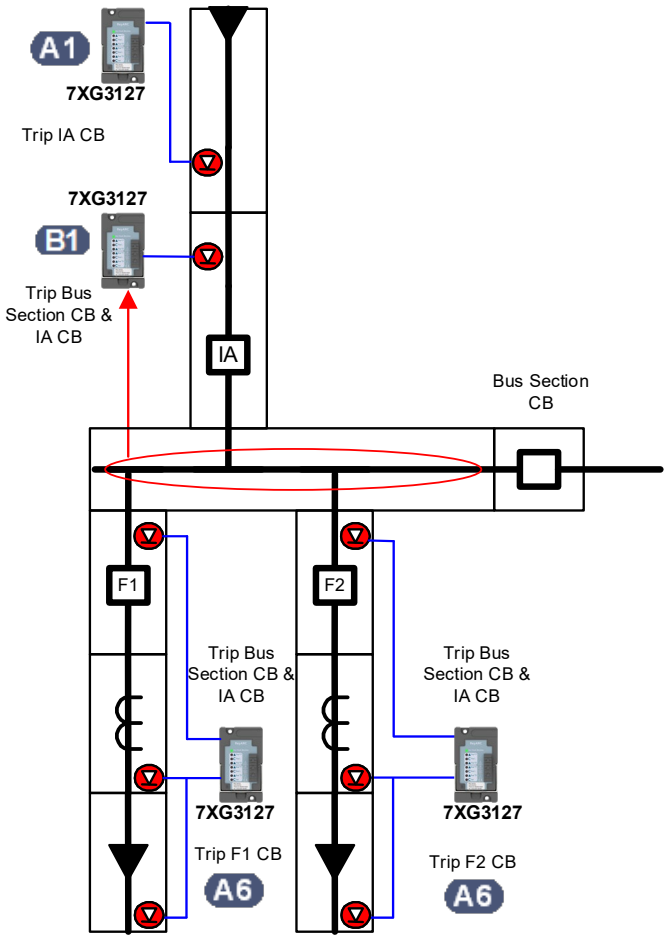


Figure 8: Link and sensor fibres connected

Configuration

Arc sensor models

There are two models available:
7XG3127-1 Point sensor inputs only (Upto 4 x RA30)
7XG3127-2 Point Sensor inputs (Upto 4 x RA30) plus one Linear optic sensor (RA40)

Both models can be ordered with any of the auxiliary power supply options and selection of mounting arrangements.

Arc sensor Operating modes

The 7XG3127 has three operating modes:

1. Normal Operating Mode The device starts up in this mode when powered ON
2. Setting Display Mode
   With the slide switch held up for 2s, the device enters the display setting mode.
   7XG3127-1 LED's for trip and sensor configuration will be displayed in accordance with Table 1
   7XG3127-2 As above with alternating LED's for linear sensor transmission length in accordance with Table 2
3. Configuration Mode
   The configuration mode is entered when a setting change is made by the adjustment of the rotary selector switch. When this occurs the Green arc flash monitor LED will commence flashing, refer to configuration selection indication.

Arc monitor Function configuration mode

The 7XG3127 may be configured to suit a wide range of arc flash monitoring applications.
The configuration mode is set via a 10 position rotary switch accessible when the front panel slide switch is operated as shown in figure 9. Positions 0-9 are employed for trip and sensor function configuration.
The single digit configuration code required to set the function mode is determined from matrix in Table 1

Note that the setting must be carried out with the device powered ON as the LED's provide feedback and to allow the configuration to be stored on completion of the setting process when the slide switch is released.
The operating mode position can be changed using a small blade screwdriver, rotating the switch to the required position

Figure 9: Front Panel Slide switch and configuration switch

Configuration Selection Indication
As the rotary switch is adjusted the front panel LED's respond by changing to a unique position to allow easy setting verification as per the following table.

Configuration Switch Setting									
0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
|	|	|	|	|	|	|	|	|	|
Front Panel Indication During Function Configuration									
Flashing									
Trip P1	●					●	●	●	●	●
Trip P2		●				●				
Sup P1			●				●			
Sup P2				●				●		
Trip L					●				●	
Sup L										●
Cal										

7XG3127-1 7XG3127-2

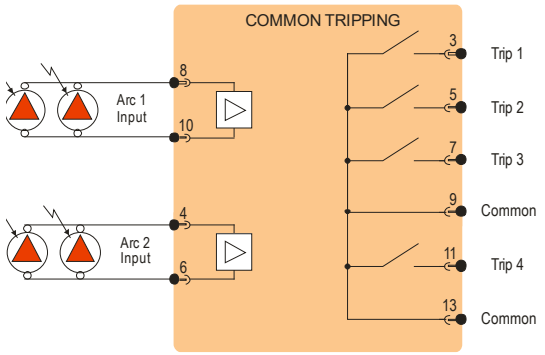
Table 1

Common Tripping Configuration

Common Tripping – All connected sensors are mapped to trip contacts 1, 2, 3 and 4.

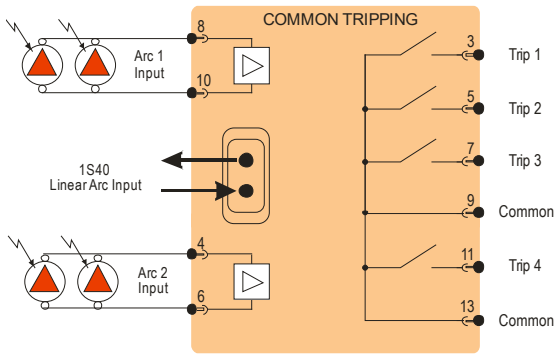
7XG3127-1

Common Tripping Scheme		Sensor Type	Configuration Switch Setting 0	1	2	3	4
Number of Sensors Connected	Input 1	7XG3130	0	1	1	1	2
	Input 2	7XG3130	0	0	1	2	2



7XG3127-2

Common Tripping Scheme		Sensor Type	Configuration Switch Setting 0	1	2	3	4
Number of Sensors Connected	Linear	7XG3140	1	1	1	1	1
	Input 1	7XG3130	0	1	1	1	2
	Input 2	7XG3130	0	0	1	2	2



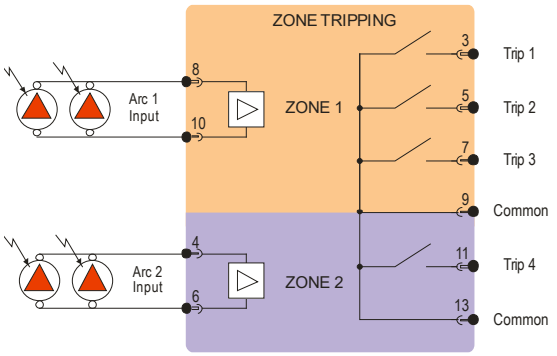
Zone Tripping Configuration

Zone Tripping – All sensors connected to INPUT 1 and LINEAR are mapped to trip contacts 1, 2 and 3 for ZONE 1.

Zone Tripping – All sensors connected to INPUT 2 are mapped to trip contact 4 for ZONE 2.

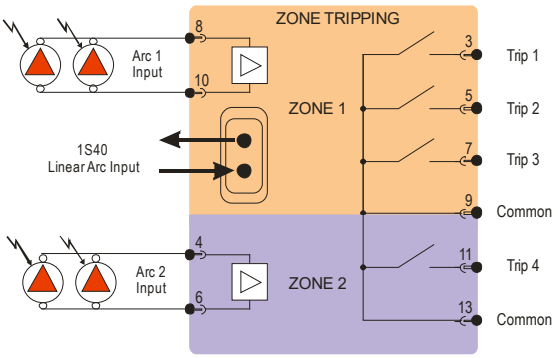
7XG3127-1

Zone Tripping Scheme		Sensor Type	Configuration Switch Setting 5	6	7	8	9
Number of Sensors Connected	Input 1	7XG3130	1	1	1	2	2
	Input 2	7XG3130	0	1	2	1	2



7XG3127-2

Zone Tripping Scheme		Sensor Type	Configuration Switch Setting 5	6	7	8	9
Number of Sensors Connected	Linear	7XG3140	1	1	1	1	1
	Input 1	7XG3130	1	1	1	2	2
	Input 2	7XG3130	0	1	2	1	2



7XG3127 with Linear Sensor option

This section relates to the version and the configuration required to operate with a 7XG3140 Linear Arc Sensor.
When connecting the linear sensor, the relay must be configured with the correct setting corresponding to the length of the optic fibre transmission section shown in Figure 10 and listed in Table 2. The transmission section fibre must be cut to one of the set lengths as specified in Table 2 within a tolerance of 10%.
This step should only be undertaken after the relay Function Setting has been set as described under Function Configuration.

7XG3127 Linear Sensor Configuration

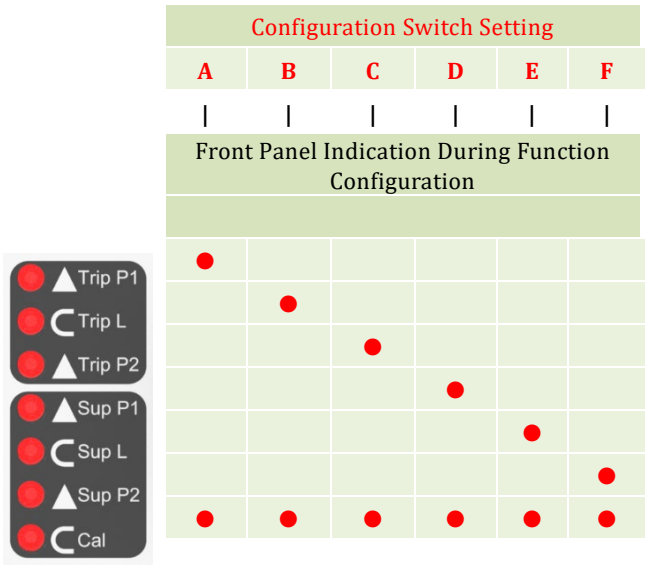
The linear sensor configuration is set via a rotary switch accessible when the front panel slide switch is operated as shown in Figure 9.
A 16-position rotary switch is employed for this version of relays. Positions A-F are used to select the Transmission Section Length setting in accordance with Table 2.
Note that the setting must be carried out with the relay powered up so that the selected setting is stored at the completion of the setting process when the slide switch is released.

Arc sensor auto calibration

When the arc monitor unit is powered up or a setting change confirmed, a calibration routine is automatically initiated to adjust the detection gain and threshold for the deployed sensor.
The output intensity of the supervision pulse used for the calibration is set based on the Transmission section length setting. If a suitable threshold cannot be set during calibration the calibration fail LED is illuminated to indicate that the 7XG3140 sensor connections and configuration setting should be checked.

Transmission Section Length	Setting
<1 metre	A
1 metres	B
5 metres	C
10 metres	D
20 metres	E
30 metres	F

Table 2: Transmission section length settings



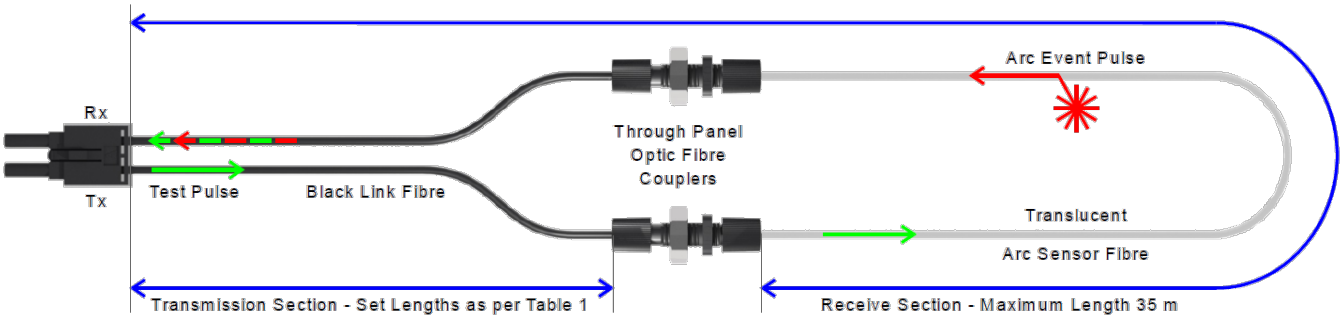


Figure 10: Example of sensor mounted through a panel and looped back internally for maximum coverage

Technical Data

Auxiliary Supply

Low Range Version	Order Code F
Nominal Voltage Supply AC/DC (Shown on relay front panel label)	24 / 32 / 48
Standards Compliant Range	19-85V dc 19-65V ac
Absolute Range	18-100V dc 15-75V ac
Mid-Range Version	Order Code G
Nominal Voltage Supply AC/DC (Shown on relay front panel label)	110 / 125
Standards Compliant Range	45-165V dc 38-150V ac
Absolute Range	36-200V dc 30-175V ac
High Range Version	Order Code H
Nominal Voltage Supply AC/DC (Shown on relay front panel label)	220 / 240 / 250
Standards Compliant Range	125-250V dc 94-240V ac
Absolute Range	100-300V dc 75-275V ac
Allowable breaks/dips in supply (Collapse to zero)	As per IEC60255-26 *7.2.11
Burden - Quiescent	8W at 110V dc
Burden - Maximum	15W at 110V dc

Trip Outputs

Operating Voltage	Voltage free
Operating Mode	Self-reset
Trip Contact Operate Time	<7ms (Flash to contact closure)
Reset Time	1s
Making Capacity	
Carry Continuously	5A ac or dc
Make and Carry L/R ≤ 40ms and ≤ 300V	20A ac or dc for 0.5s
	30A ac or dc for 0.2s
Breaking Capacity L/R ≤ 40ms and ≤ 300V	
AC Resistive	1,250VA
AC Inductive	250VA at p.f. ≤ 0.4
DC Resistive	75W
DC Inductive	30W at L/R ≤ 40ms
	50W at L/R ≤ 10ms
Minimum Load	100mA ≥12V

Supervision Alarm Output

Contact material	Ag (Au Clad)
Operating Voltage	Voltage free
Isolation across open contacts	1 kV rms
Make and carry	0.5 A continuous at 125 V ac
Peak inrush current	2 A
Switching voltage: Maximum Minimum	 220 V dc / 250 V ac 10 mV dc
Minimum switching current	10uA

Arc Fault Sensor Point Inputs

Number	4
Type	7XG3130 point sensors
Connection	Electrical termination
Zones	1 or 2
Supervision duration	Continuous

Arc Fault Sensor Linear Sensor

Number	1
Type	7XG3140 linear sensors
Connection	Rx and Tx optic fibre ports
Zones	1
Supervision duration	<1ms
Supervision interval	2.5 minutes

Electrical Tests

AC and DC Voltage Dips

IEC 60255-26, #7.2.11

Dip to 0% of residual voltage Acceptance criterion A	DC: 20 ms AC: 1 cycle 50/60 Hz
Dip to 40% of residual voltage Acceptance criterion C	DC: 200 ms AC: 10/12 cycles 50/60 Hz
Dip to 70% of residual voltage Acceptance criterion C	DC: 500 ms AC: 25/30 cycles 50/60 Hz

AC and DC Voltage Interruptions

IEC 60255-26, #7.2.11, Acceptance criterion C

Drop to 0% of residual voltage	DC: 5 s AC: 250/300 cycles 50/60 Hz

AC component in DC (Ripple)

IEC 60255-26, #7.2.12, Acceptance criterion A

15% of rated DC value	100/120 Hz, Sinusoidal

Gradual Shut-down/Start-up (DC Power Supply)

IEC 60255-26, #7.2.13, Acceptance criterion C

Shut-down ramp	60 s
Power off	5 min
Start-up ramp	60 s

Clearance and Creepage Distances

IEC 60255-27, #10.6.3

Pollution degree	2
Overvoltage category	III
Rated insulation voltage	300 V rms or dc
Clearances and Creepage Compliance	CAD drawings assessment

Insulation

IEC 60255-27 #10.6.4

Type	Level 3
Between any terminal and earth	5 kV 1.2/50 µs 0.5 J 3 pulses of each polarity 2.0 kV ac rms for 1 minute
Between independent circuits	5 kV 1.2/50 µs 0.5 J 3 pulses of each polarity 2.0 kV ac rms for 1 minute
Across normally open contacts	1.0 kV AC RMS for 1 min
Protective Bonding Resistance	< 0.1 Ω at 20 A

Electrical Environment and Flammability

IEC 60255-27, #10.6.5

Single-fault condition	Assessment
Maximum temperature of accessible parts at ambient temperature +40°C	Metal parts: < 70°C Non-metallic parts: < 80°C
Flammability of insulating materials, components and fire enclosures	Assessment

Reverse Polarity and Slow Ramp Test

IEC 60255-27, #10.6.6

Maximum voltage dc	V start-up + 20%
Minimum voltage dc	V shutdown - 20%
Ramp down/up gradient	1 V/min

Mechanical Environment

Vibration - Sinusoidal

IEC 60255-21-1 Class I

Type	*Level*	*Variance*
Vibration response in each of 3 axes	0.5gn peak 1 sweep cycle 10-150Hz	≤5%
Vibration endurance in each of 3 axes	1.0gn peak 1 sweep cycle 10-150Hz	≤5%

Shock and Bump

IEC 60255-21-2 Class I

Type	*Level*	*Variance*
Shock response in each of 3 axes	5gn, 11ms, 3 pulses in each direction	≤5%
Shock withstand in each of 3 axes	15gn, 11ms, 3 pulses in each direction	≤5%
Bump test in each of 3 axes	10gn, 16ms, 1,000 bumps in each direction	≤5%

Seismic

IEC 60255-21-3 Class I

Type	*Level*	*Variance*
Seismic response, Horizontal on each axis	1gn 1 sweep cycle 1-35Hz	≤5%
Seismic response, Vertical	0.5gn 1 sweep cycle 1-35Hz	

Atmospheric Environment

Temperature

IEC 60068-2-1/2

Operating Range	-10 °C to +55 °C
Storage range	-25 °C to +70 °C
Test Duration	16h at top and bottom temperatures

Humidity

IEC 60068-2-78

Operational test	40 °C and 93% relative humidity non condensing
Test Duration	16h at top and bottom temperatures

IP Ratings

IEC 60529

Type	*Level*
Installed	IP 5x

Mechanical Classification

Electromagnetic Compatibility

Electrostatic Discharge

IEC 60255-26 #7.2.3, Acceptance criterion B

Type	Level	Variation
Air Discharge	8 kV	≤ 5 %

Radiated Electromagnetic Field

IEC 60255-26 #7.2.4, Acceptance criterion A

Port	Enclosure	
Test Identification	Test specification	Variation
Frequency sweep	10 V rms, 80 to 1000 MHz 1400 to 2700 MHz	No Mal-Op
Spot frequencies	10 V rms, 80, 160, 380, 450, 900, 1850 & 2150 MHz	No Mal-Op

Fast Transients

IEC 60255-26 #7.2.5, Acceptance criterion B

Type	Level	Variation
Port	Aux Power Supply, Inputs and Outputs, Functional Earth	
5/50 ns 5 kHz repetitive	4kV peak	≤ 5 %

Slow Damped Oscillatory Wave (HFD)

IEC 60255-26 #7.2.6, Acceptance criterion B

Port	Auxiliary power supply, Input and Output	
Test Identification	Test specification	Variation
Common Mode	1 MHz 2.5 kV peak	No Mal-Op
Differential Mode	1 MHz 1.0 kV peak	No Mal-Op

Surge Immunity

IEC 60255-26, #7.2.7, Acceptance criterion B

Type	Level	Variation
Port	Aux Power Supply, Inputs and Outputs	
Line to Earth	4.0 kV peak	≤ 10%
Line to Line	2.0 kV peak	≤ 10%

Conducted Disturbance Induced by RF Fields

IEC 60255-26, #7.2.8, Acceptance criterion A

Port	Auxiliary power supply, Input and Output, Functional Earth	
Test Identification	Test specification	Variation
Frequency sweep	10 V rms, 0.15 to 80 MHz	No Mal-Op
Spot frequencies	10 V rms, 27 & 68 MHz	No Mal-Op

Durability – 0.1Hz maximum repetition rate	$>10^5$ operations at no load $>10^4$ operations at full load

Power Frequency Magnetic Field

IEC 60255-26, #7.2.10

Port	Enclosure only
Test Identification	Test specification
Continuous ≥ 60 s	30 A/m - Acceptance criterion A
Short time 1 s to 3 s	300 A/m - Acceptance criterion B

Emissions

Emission Enclosure

IEC 60255-26 #5.1

Test Identification	Frequency range	Limits, dB (µV/m)
Radiated emission <1 GHz	30 - 230 MHz	40, quasi peak at 10 m 50, quasi peak at 3 m
	230 - 1000 MHz	47, quasi peak at 10 m 57, quasi peak at 3 m
Radiated emission >1 GHz	1 – 3 GHz	56, average 76, peak at 3 m
	3 – 6 GHz	60, average 80, peak at 3 m

Emission Auxiliary Power Supply Port

IEC 60255-26 #5.2

Test Identification	Frequency range	Limits, dB (µV/m)
Conducted emission	0.15 – 0.50 MHz	79, quasi peak 66, average
	0.5 - 30 MHz	73, quasi peak 60, average

Dimensions

Surface Mount Rear connection (projecting – As shown in Figure 19)

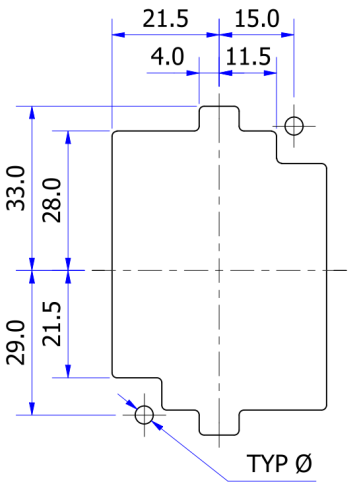


TABLE 1 - HOLE DIA	
PANEL THICKNESS (T)	HOLE DIA (Ø)
1mm < T < 2mm	3.6mm
T > 2mm	3.7mm

Figure 11: Terminal Block panel cut out Type TBD-R

Flush Panel Mount (As shown in Figure 17)

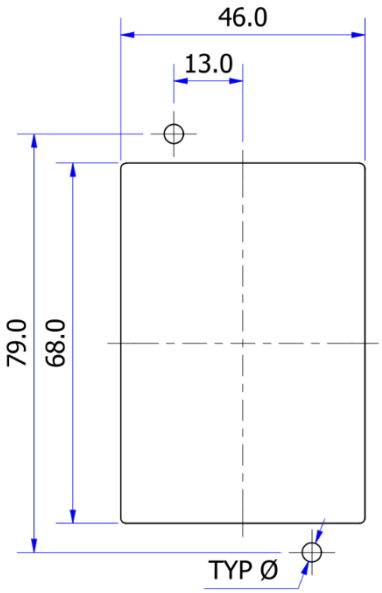


TABLE 1 - HOLE DIA	
PANEL THICKNESS (T)	HOLE DIA (Ø)
1mm < T < 2mm	3.6mm
T > 2mm	3.7mm

Figure 12: Panel cut out for flush mounting Terminal Block Type TBD-R1 base

Flush Panel Mount (As shown in Figure 20)

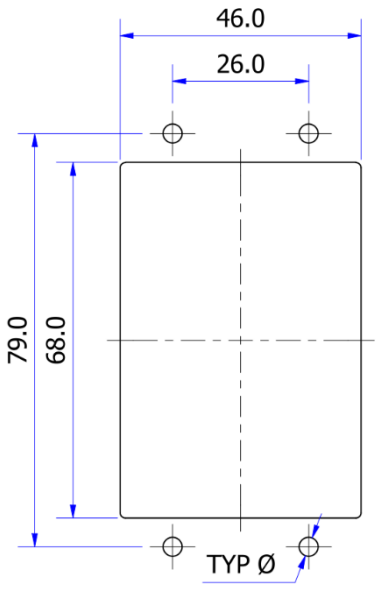


TABLE 1 - HOLE DIA	
PANEL THICKNESS (T)	HOLE DIA (Ø)
1mm < T < 2mm	3.6mm
T > 2mm	3.7mm

Figure 13: Panel cut out for flush mounting Terminal Block Type TBD-R2 base

Mounting Recommendations

The 7XG3127 comes with two different fascia mountings which can be easily changed. The ordering options provide the facility to select the preferred fascia mounting bracket and rear terminal block supplied with the base 7XG3127 device. To allow flexibility and exchange of the mounting arrangements on site the basic 7XG3127 module is delivered with a standard MLFB option of a 0 in position 10 of the order code and does not reflect the mounting arrangement.

Terminal Block
TBD-R1 /R2 Rear connect terminal block suitable for flush mount relay version.
TBD-F Front connect terminal block suitable for rail mount relay version

19 Inch Rack Mounted Rear Connection

Figure 14: 19" rack mount 2U x 2U

Figure 15: 19" rack mount 4U x 4 U in adapter plate for 4 units

Figure 16: 19" rack mount 2U x 4U in adapter plate for 2 units

Panel Mounted Rear Connection

Figure 17: Front Panel Mount

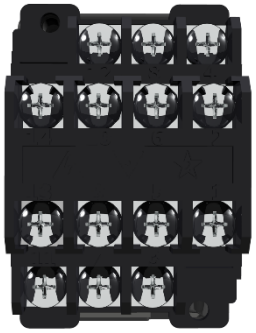


Figure 18: Rack Mount Terminal Block TBD-R1

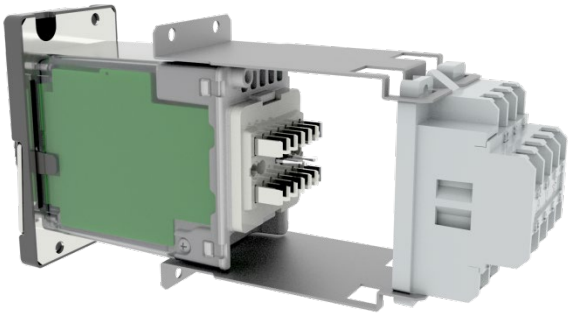


Figure 19: Panel mount with adapter unit with rear connection Terminal Block TBD-R2. Relay shown partially drawn out of panel.
Note: The terminal block retention plates supplied with TBD-R2 mounting are not suitable for use with linear sensor.

Surface Mount Rear Connection (Projecting)

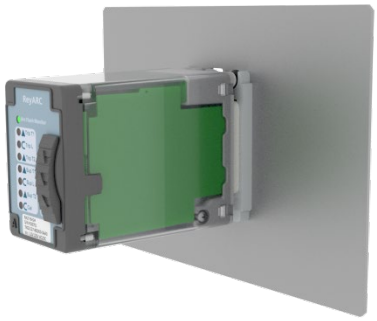


Figure 20: Projecting surface mount with TBD-R1

Surface Mount Front Connection

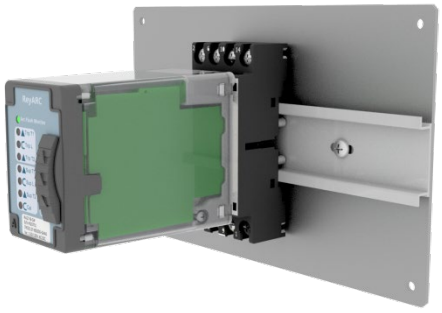
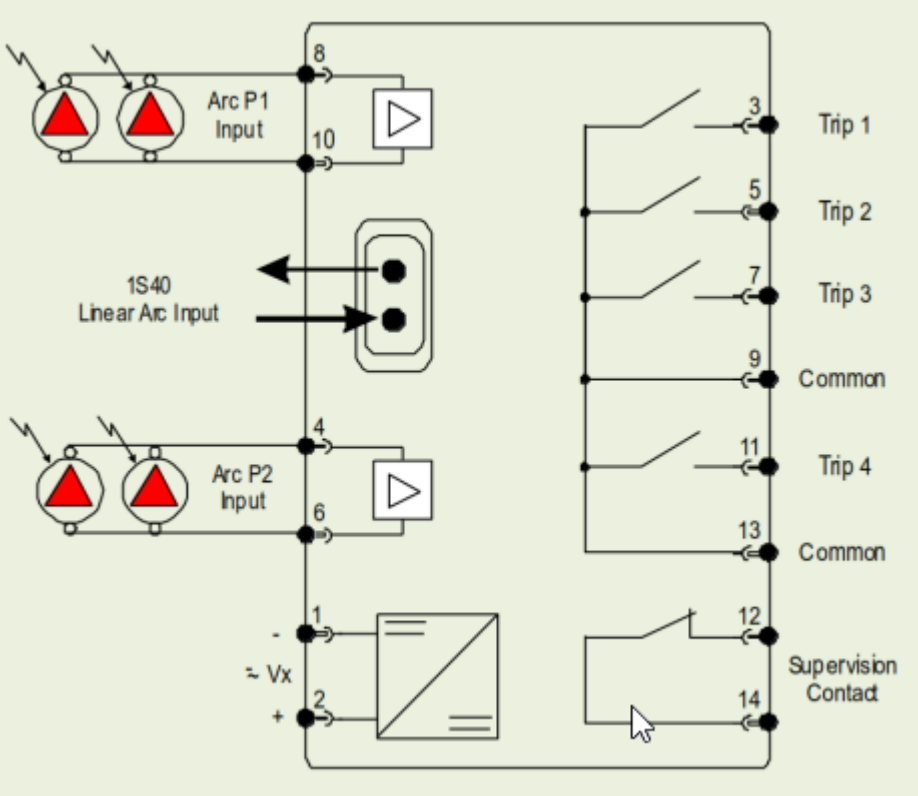


Figure 21: Surface mount with TBD-F

Figure 22: Surface mount Front connection Terminal Block TBD-F

Connection Diagram



Ordering Information

Product description	Variants	Order No.
		7 X G 3 1 2 7 - □ □ □ 0 0 - 0 A A 0
Reyarc – Arc Fault Protection Components	Category	
	Arc Protection	3 1
	Device	
	RA27 Arc Sensor Fault Monitor	2 7
	Arc Detectors	
	Point Sensor Inputs only	1
	Point Sensor & Linear Sensor Inputs	2
	Auxiliary Supply	
	19-85V DC/19-65V AC	F
	40-165V DC/38-150V AC	G
	125-250V DC/95-240V AC	H
	Mounting Arrangement	
	Surface/DIN Rail Mount +TBD-F Terminal Block	A
	Surface Mount +TBD-R1 Terminal Block	B
	Panel Mount +TBD-R1 Terminal Block	C
	Panel Mount +TBD-R2 Terminal Block	1 D

Note: The 7XG3127 will be delivered for mounting as per the order code. As the device mounting arrangement can be changed on site, to provide customer flexibility, the front panel information label of the device shows a 0 in position 10 of the order code.

Accessories	Variants	Order No.
Rack mounting frames	Dual – 4U x 2 frame for mounting 2 high x 1 wide RA27	VCE:TBD-AD
	Quad – 4U x 4 frame for mounting 2 high x 2 wide RA27	VCE:TBD-AQ

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