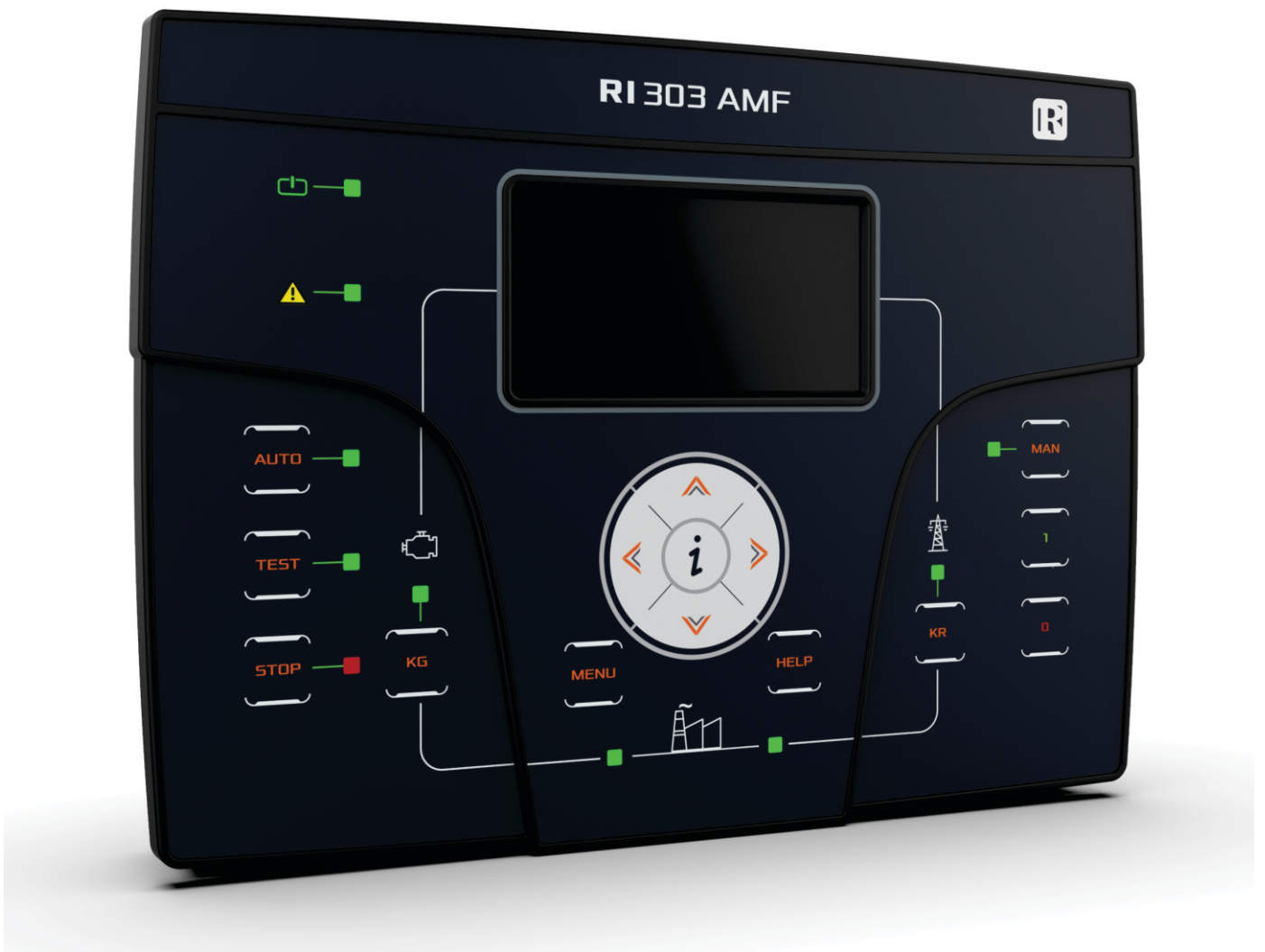




# Data Sheet

## RI 303 AMF



Measure



Control



Record



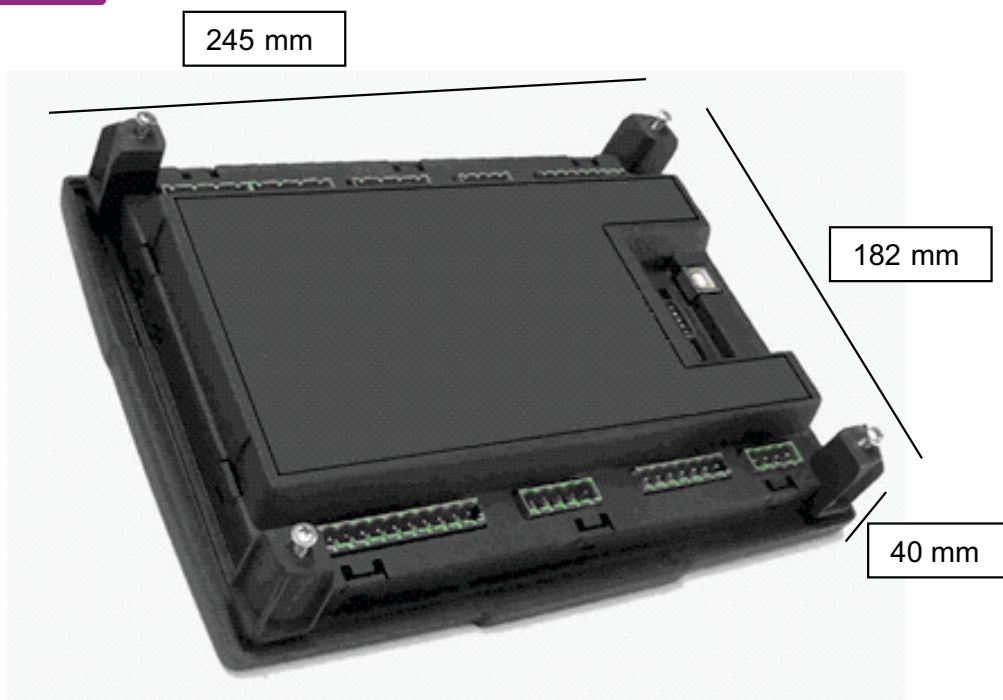
Analyze

**RI 303 AMF** is a Automatic Mains Failure (AMF) Genset controller aimed at giving high performance and benefits. The graphic display is a user-friendly human interface useful for an immediate visualization of measures and alarms coming from the genset.

### Product Features:

- ☞ RS232 - RS485 independent serial interfaces
- ☞ Digital / Analog inputs and outputs programmable from the keyboard
- ☞ Help service page, with visualization of the status of inputs and outputs
- ☞ Events log with upto 250 events
- ☞ Voltages and Currents on the same display page
- ☞ Remote start with closure of the generator contactor even with mains present
- ☞ Timer Start / Stop for programmed work cycles
- ☞ Smart auto setup systems
- ☞ Easy programming and navigation
- ☞ Fast and easy updating of the maintenance hours
- ☞ Engine CANBUS Communication J1939
- ☞ Gasoline engines support with automatic management of the choke valve

### Dimension Details:



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**Operation Modes:****Automatic Mode**

- ✓The engine automatically starts in case of mains failure (or out of limits) and stops in the presence of the same, with automatic management of KG and KR. During the starting phase it is possible to stop the engine with the STOP button. At the end of this phase the button is disabled. Use the RESET button to stop the engine.
- ✓Push the AUT button to select this functioning mode.

**Manual Mode**

- ✓The engine can be started and stopped manually by pressing start and stop key buttons; load switching on mains and generator is managed using buttons KG and KR.
- ✓Press the MAN button to select this functioning mode.

**Test Mode**Manual test:

- ✓Press the TEST button: the engine starts immediately to test the genset for a programmable time.
- ✓Disabling the test (or after the test time), the controller returns to the previous operation mode.
- ✓Push the TEST button to select this functioning mode.

Automatic test:

- ✓If you programmed an automatic test, it will run only if you are in automatic mode.

**Reset Mode**

- ✓If you select Reset mode, the alarms are reset and the engine stops immediately if it is working. If the cause of the alarm remains, it is not possible to reset the alarm.
- ✓Push the RESET button to select this functioning mode.

**Alarms**

- ✓In case of alarm, the display shows its description. For each alarm it is available a message that can help to identify the source of the problem.
- ✓The alarm reset can be made by pressing the RESET button; by this, the alarm is deleted and the genset goes in Reset mode, preventing accidental generator starting attempts.
- ✓If the alarm, after reset, still remains on the display, the cause of the alarm is not removed.

**First Installation**

- ✓The Genset can be powered either by 12 or 24Vdc with automatic detection. You must set or verify menu parameters about ALTERNATOR (CT ratio, type of connection, rated voltage and frequency) and the Starting Menu inside "Engine setup", according to the type of engine used.



Measure



Control

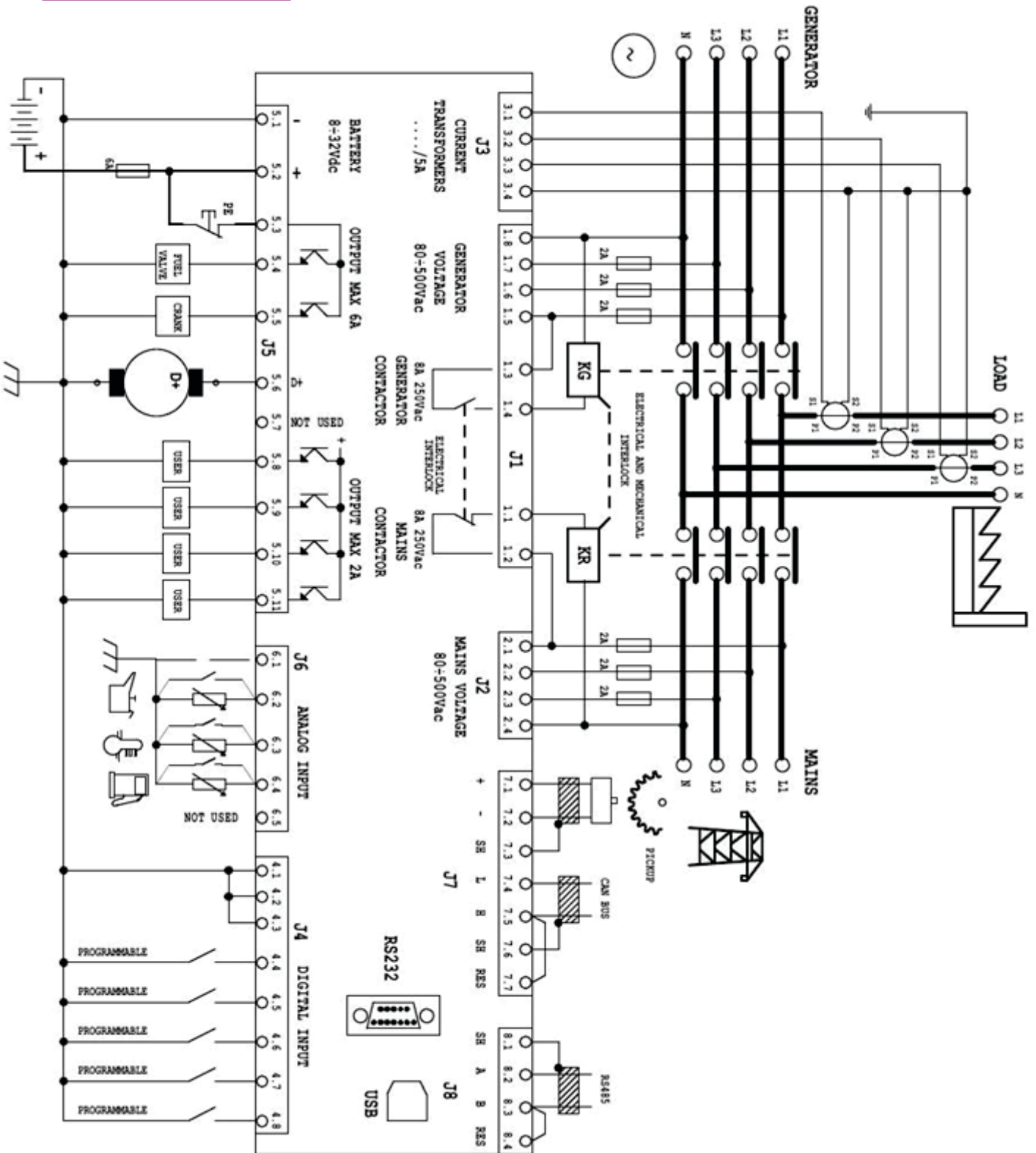


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Electrical Installation:



Measure



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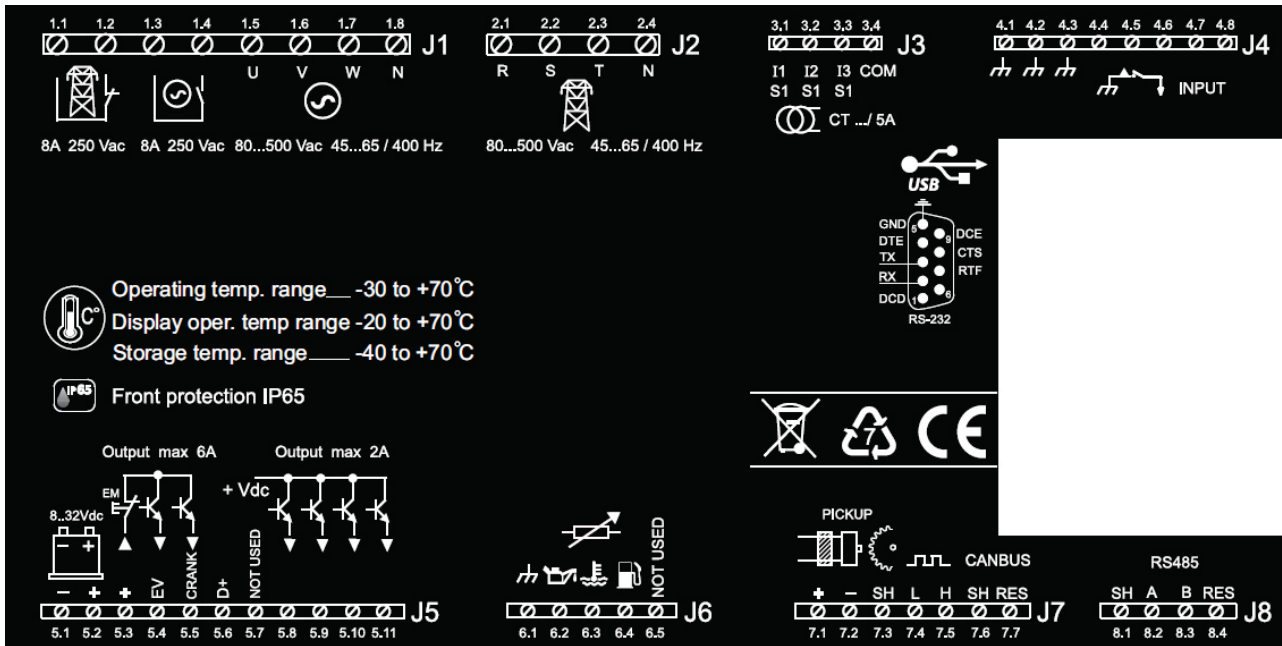


Record



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### Connections:



#### J1 – Genset AC voltage and contactors

- 1.1 - Mains contactor output (NC)
- 1.2 - Mains contactor output (NC)
- 1.3 - Genset contactor output (NO)
- 1.4 - Genset contactor output (NO)
- 1.5 - Genset voltage phase 1
- 1.6 - Genset voltage phase 2
- 1.7 - Genset voltage phase 3
- 1.8 - Neutral

#### J4 – Digital inputs

- 4.1 - Gnd
- 4.2 - Gnd
- 4.3 - Gnd
- 4.4 – Programmable digital input (Low coolant level)
- 4.5 – Programmable digital input (Ground protection alarm)
- 4.6 – Programmable digital input (Remote start)
- 4.7 – Programmable digital input (Remote stop)
- 4.8 – Programmable digital input (Load contactor open)

#### J7 – Rpm and Canbus

- 7.1 - Pickup input positive
- 7.2 - Pickup input negative
- 7.3 - Pickup shield
- 7.4 - Canbus Low
- 7.5 - Canbus High
- 7.6 - Canbus
- 7.7 - Canbus termination resistor (bridge with J7-7.5)

#### J2 – Mains AC voltage

- 2.1 - Mains voltage phase 1
- 2.2 - Mains voltage phase 2
- 2.3 - Mains voltage phase 3
- 2.4 - Neutral

#### J5 – Supply and Outputs

- 5.1 - Battery negative
- 5.2 - Battery positive
- 5.3 - Common positive for fuel valve and start output (Emergency stop alarm input)
- 5.4 - Fuel valve output
- 5.5 - Start engine output
- 5.6 - Battery charger alternator output (D+)
- 5.7 - Not used
- 5.8 - Programmable output (Global alarm #1)
- 5.9 – Programmable output (Glow plugs)
- 5.10 – Programmable output (Siren)
- 5.11 – Programmable output (Electro solenoid)

#### J8 - RS485 port

- 1- Shield
- 2- A
- 3- B
- 4- Termination resistor

#### J3 – Genset AC current

- 3.1 - Genset current I1
- 3.2 - Genset current I2
- 3.3 - Genset current I3
- 3.4 - CT common

#### J6 – Digital / Analog inputs

- 6.1 - Gnd
- 6.2 - Oil pressure digital / analog (Low oil pressure digital)
- 6.3 – High engine temperature digital analog (High engine temperature digital)
- 6.4 – Fuel level percentage digital / analog (Fuel level percentage analog)
- 6.5 – Not used

#### Rs232 - Communication ports

- RS232 - connection of a remote device



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**Hardware Ratings:****General Characteristics**

Rated Voltage (Vdc)	12 Vdc (24 Vdc)
Allowed (Vdc)	6 Vdc to 33 Vdc
Rated Voltage (Vac)	400 Vac
Allowed (Vac)	Upto 500 Vac
Allowed Frequency	Upto 75 Hz
Max Consumption with Backlit	250 mA
Temperature Range	-30 to +70°C (electric) -20 to +70°C (display) -40 to +70°C (storage)
Front Protection	IP65
Display	128 x 64 pixel, 66 x 33 mm

**Digital Inputs**

No	5
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**Speed Input - Pickup/W**

Voltage Range	From 1 to 36 V
Frequency Range	Upto 8 Khz

**Static Output**

No	6 (2 x 4A; 4 x 2A)
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**Analog Inputs**

No	3
Input Type	Resistance to ground measurements

**Serial Communication Interface**

Interface Type	Serial RS-232
Cable Length	< 3m
Baud Rate	115200 bps
Interface Type	Serial RS-485
Baud Rate	115200 bps
Canbus	1 Canbus Interface
Nominal Input Current Burden	< 0.2 VA approx. per phase

**Contactors Relays**

No of Outputs	2
Type of Contacts	1 NO (Genset Contactor), 1 NC (Mains Contactor)
Contacts Capacity	8A / 250 Vac

**Load Currents Input**

No	3
Measure Range	Upto 5A
Precision	< 1% FS + 1 digit

**Voltage Inputs**

No	8
Input Type	Resistive Coupling
Rated Voltage	230 Vac L-N, 400 Vac L-L
Measure Range	TRMS from 0-300 Vac L-N, 0-500 Vac L-L
Precision	< 1% FS + 1 digit

**Active Power Measure**

Measure Type	Instant Power Integration
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**Hardware**

No of Keys	15
No of LEDs	10



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### Hardware Ratings:

#### Expansion

Serial Interface	2xRJ11 4c4p connector not isolated
Supply	6 Vdc to 33 Vdc
Installation	Internal Panel DIN Rail Mounting
Inputs	8x configurable 0-500 ohm / 4-20mA / 0-5 Vdc
Input Type	Resistance to ground measurements

### Standards:

1. EN55011
2. EN55016-2-1
3. EN55016-2-3
4. EN60068-2-1
5. EN60068-2-2
6. EN60068-2-27
7. EN60068-2-30
8. EN60068-2-6
9. EN61000-4-2
10. EN61000-4-3
11. EN61000-4-4
12. EN61000-4-5
13. EN61000-4-6
14. EN61000-4-8
15. EN61000-6-2
16. EN61000-6-4
17. HBV Bureau Veritas NR320

### Ordering Information:

Ordering information	Ordering Code
RISH Genset Controller RI303 Automatic Mains Failure	RI 303 AMF



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RISHABH



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