MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

HONEYWELL

FC-RUSIO-3224

REMOTE UNIVERSAL SAFE I/O MODULE

Used with the applicable Honeywell Safety Manager Remote Universal I/O configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Honeywell Safety Manager Remote Universal Safe I/O Hardware Reference

RUSIO-3224

Remote Universal Safe IO device (32 channels, 24 Vdc)

Description

The RUSIO-3224 module has 32 universal safe IO channels with configurable channel function; configuration is done in Safety Builder.
The RUSIO-3224 module can be used in applications up to SIL 3, in compliance with IEC 61508/61511.

It requires two RUSIO-3224 modules to achieve a redundant configuration.

All channels are powered out of the 24Vdc supply.

Each channel can be configured as:

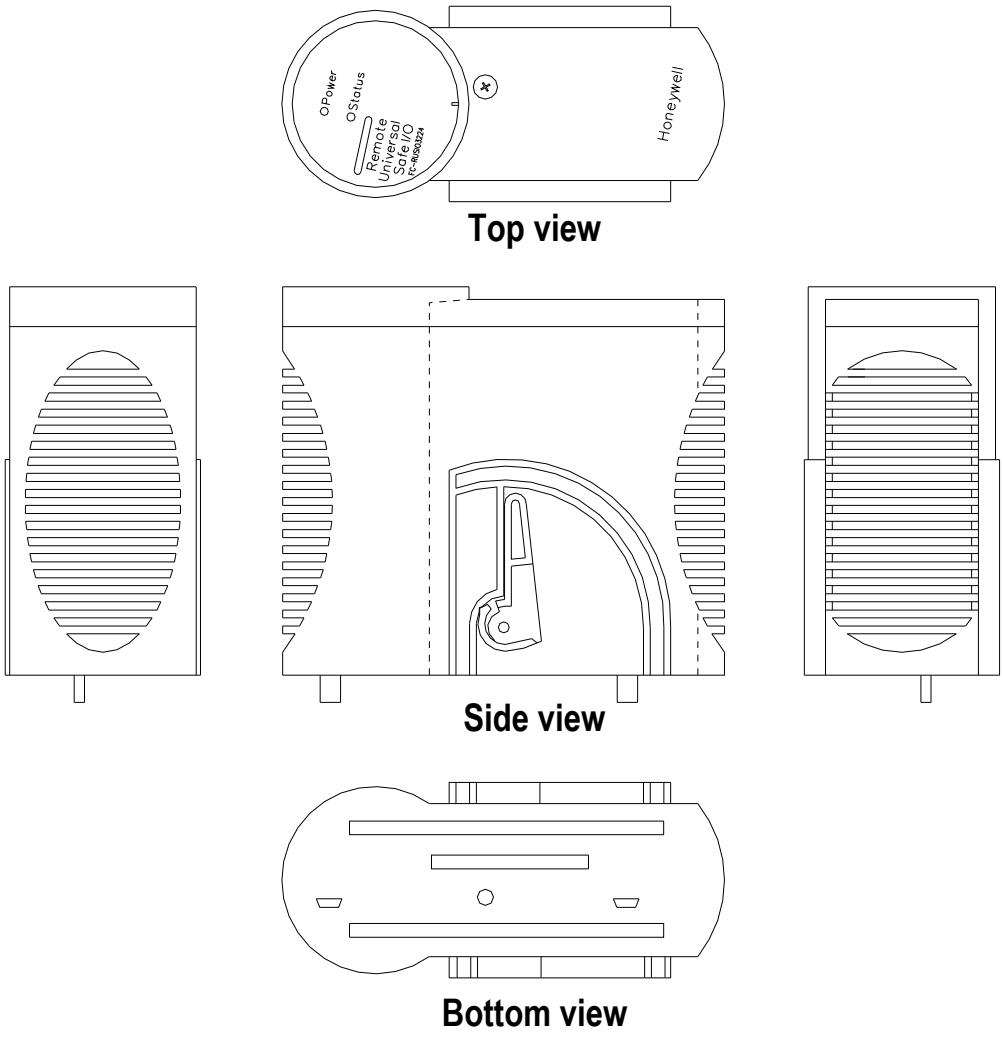
- Digital input (with or without loop monitoring)
- Digital output (with loop monitoring)
- Analog input (0-20mA or 4-20mA active)
- Analog output (0-20mA or 4-20mA active)

The RUSIO-3224 module supports two (100Mbaud) ethernet links to communicate with a SM Controller.

The RUSIO-3224 module has a housing that is in line with the patented Series C design of Honeywell. It needs to be placed on an IO Termination Assembly (IOTA).

Figure 249 on page 417 shows physical appearance of the RUSIO-3224 module.

Figure 249 RUSIO-3224 module - top, side and bottom view



The RUSIO-3224 module has the following features:

- 32 universal IO channels that can be configured to control DI, AI, DO, AO
- any type of IO field signal has only to be connected to the two connections of the applicable universal channel on the IOTA
- proven-in-use redundant processor concept that complies with the SIL 3 safety requirements in single channel operation
- a dedicated communication link between these processors
- a redundant communication link with the partner module (in redundant configuration)
- an Ethernet-based SM RIO link to the SM Controller in the network via dedicated switches; the SM RIO link uses a dedicated protocol

- monitoring the temperature of the electronics
- a configurable ESD function via channel 32 for dedicated safety related functions
- function-tested watchdogs that: monitor and/or handle:
  - monitor cycle time and supply voltage
  - handle the ESD function and memory errors
- LED indicators at the front of the module for power and health status indication
- real-time clock for Sequence Of Event (SOE) time stamping with a resolution of 1 msec

The RUSIO-3224 module functions as a universal IO module within the Safety Manager concept. It executes:

- the input scan of the process variables
- all functional tests of its hardware
- data exchange with its partner module
- data exchange via the SM RIO link with the SM Controller that executes the application logics
- update the outputs and thus the process

The FLASH nature of the memory allows for on line upgrading within the TUV-approved concept of both the system software as well as the channel configuration.

Technical data

The RUSIO-3224 module has the following specifications:

General	Type number:	FC-RUSIO-3224
	Operating temperature:	
	• outside module temperature:	–40°C ... +70°C (–40°F ... +158°F)
	• inside module temperature:	–40°C ... +90°C (–40°F ... +194°F)
	Storage temperature:	–40°C ... +85°C (–40°F ... +185°F)
	Relative humidity:	10 ... 95% (non condensing)
	Pollution:	Pollution degree 2 or better
	Approvals:	CE; UL, TUV pending
Power	Supply voltage:	24 Vdc -15% ... +30%
	Supply current:	max 300mA (without field load)
IO	Number of channels:	32
	Channel type:	Universal safe (software configurable)
	• Digital in	max. 32 (with or without line-monitoring)
	• ESD in	max. 1 (with line-monitoring)
	• Analog in	max. 32 (with or without line-monitoring)
	• Digital out	max. 32 (with or without line-monitoring) max. combined load: 9 Amp
	• Analog out	max. 16 (with or without open loop detection)
Physical Data	Dimensions (H x W x D):	145 x 165.1 x 72.4 mm 5.7 x 6.5 x 2.85 in
	Weight:	0.66 kg 1.45 lbs