

Remote I/O unit RIO600 for switchgear applications

RIO600 is a flexible and rugged Remote I/O unit for power distribution substations. It can be used in various distribution and grid automation applications using IEC 61850 and Modbus TCP communication.



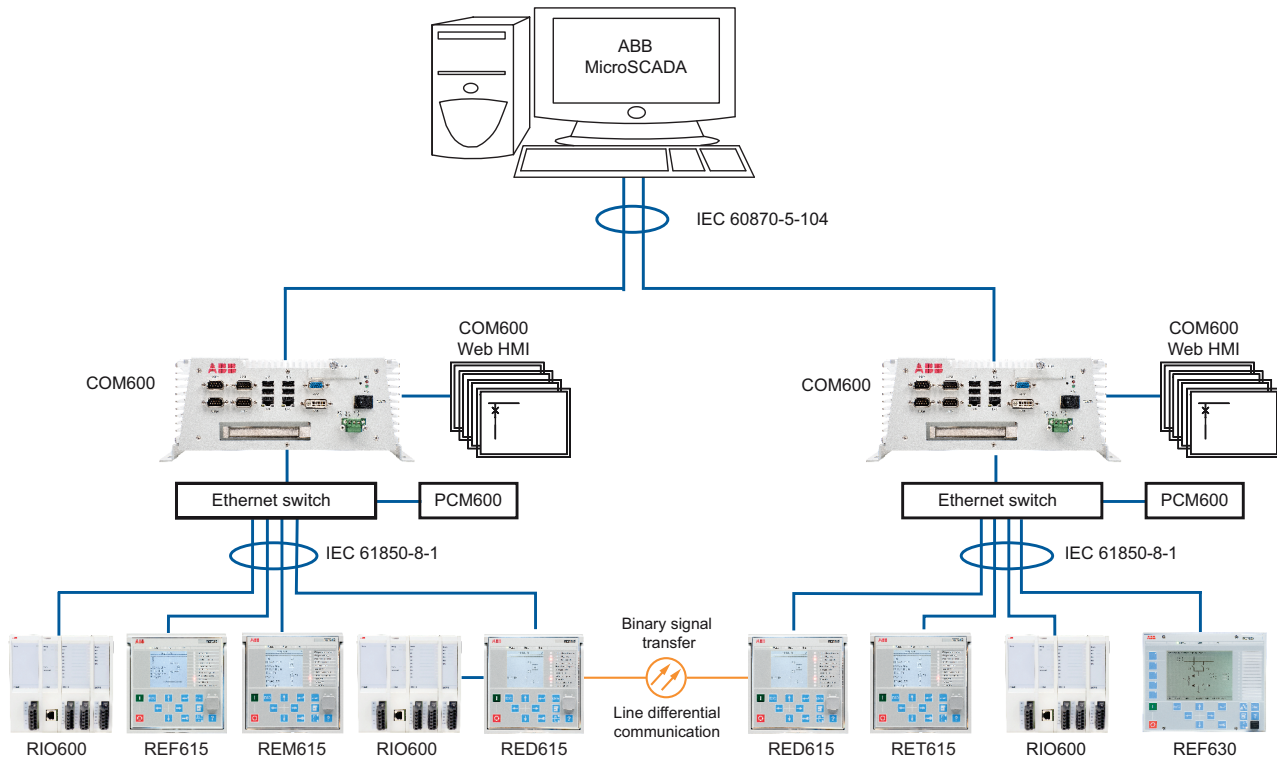
RIO600

RIO600 is designed to expand the digital I/O (Input/Output) of ABBs Relion® series protection relays and to provide I/O for the station automation unit COM600 in primary substations. It can be also used in secondary distribution substations as a combined I/O and fault passage indication device as part of the grid automation solutions.

Key benefits

RIO600 helps simplifying the substation wiring and provides additional flexible I/O within the switchgear. It can use IEC 61850 horizontal GOOSE communication or Modbus TCP. The data can be transmitted with better supervision and in a faster manner than when signals are wired in the traditional way.

Module type		Description	
Power supply modules		PSMH	High-voltage range power supply module
		PSML	Low-voltage range power supply module
Communication modules		LECM	Communication module with RJ-45 Ethernet port
		LECM	Communication module with multimode fiber-optic LC Ethernet port
I/O modules	Digital input module	DIM8H	High-voltage range, eight optically isolated binary inputs with common return for pair of two inputs
		DIM8L	Low-voltage range, eight optically isolated binary inputs with common return for pair of two inputs
	Digital output module	DOM4	Four output contacts in each digital output module with two pairs of potential free contacts with common return
	RTD module	RTD4	Four optically isolated channels supporting RTD sensors (Pt100, Pt250, Ni100, Ni120 and Ni250) and mA input (0...20 mA configurable). Individual channels are non-isolated from each other
	Analog output module	AOM4	Four individually isolated channels of configurable mA outputs driving 0...20 mA signal
	Sensor input module	SIM8F	Sensor Input module with combined three-phase current and voltage for fault passage indication and metering function
	Smart control module	SCM8H	High-voltage range, four optically isolated binary inputs with common return for a pair of two inputs and four fast power outputs that can be used in different motor control applications
		SCM8L	Low-voltage range, four optically isolated binary inputs with common return for pair of two inputs and four fast power outputs that can be used in different motor control applications



Connection overview of RIO600 in typical system

Hardware

RIO600 is built on the industrial hardware platform which provides the same reliability, performance and real-time functionality as ABB protection and control relays.

RIO600 has modular design suitable for electrically harsh and climatically demanding utility substation and industrial environments. Single RIO600 can have upto 40 I/O channels and different type of I/O modules can be stacked in totally flexible way allowing wide range of applications.

Communication

The RIO600 supports the fast realtime horizontal GOOSE communication of the IEC 61850 Edition 1 and Edition 2 substation automation standard. RIO600 also supports Modbus TCP communication to one Modbus TCP client. Both of them can be used in parallel in the same Ethernet based station bus.

RIO600 is designed to send and receive binary signals to or from the ABB Relion® protection relays and the station automation unit COM600 using the IEC 61850-8-1 GOOSE profile. RIO600 can subscribe from five devices and publish to multiple devices as configured by the user.

Using the same Ethernet port, RIO600 can be connected in parallel to PCM600 and a web browser over the same communication bus. RIO600 communication includes a galvanic RJ-45 port or fiber optic LC Ethernet for IEC 61850 GOOSE and Modbus TCP communication. RIO600 Web HMI is used for monitoring and diagnostic purposes wherein with PCM600 user can configure all parameters.

For more information please contact :

ABB Oy,
Medium Voltage Products
 P.O. Box 699
 65101 Vaasa, Finland
 Phone: +358 10 22 11
 Fax: +358 10 22 41094

ABB India Limited
Distribution Automation
 Maneja,
 Vadodara 390 013, India
 Phone: +91 265 6724402
 Fax: +91 265 6724407

new.abb.com/medium-voltage
new.abb.com/substation-automation