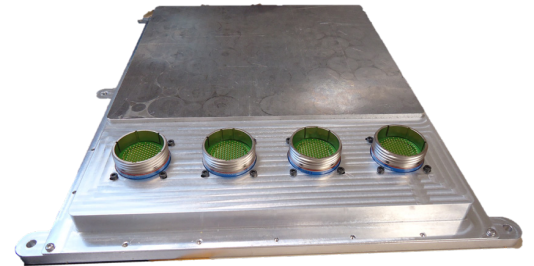




Solve your industrial interface needs with the robust, high density, industrial remote interface unit, the IRIU-240.



The IRIU-240 is the first in a new range of Industrial Interface Units developed by GE Aviation's remote interface unit group.

Remote Interface Units (RIUs) are line replaceable modules that are designed to be located in remote locations, away from the main control modules but in the vicinity of subsystems and plant machinery.

Their primary role is to provide a serial digital interface between subsystems and plant machinery sensors/actuators and a higher level computing resource. In addition to operating as a data gathering slave to an RIU, control module, or other computing resource, some variants of Industrial Remote Interface Unit (IRIU) can provide basic autonomous local closed loop control. The modular software and hardware ethos of the IRIU provides significant flexibility to the user. This enables common IRIUs to be used throughout the control system with units taking on a different interfacing role in each location.

The IRIU configuration process utilises an aerospace qualified tool chain that enables the user to pick from a catalogue of pre-tested and approved functions. This level of configurability and flexibility allows the IRIU to differentiate itself significantly from traditional industrial Input/Output (I/O) control offerings and has been developed to provide a flexible processing

capability with minimal cost and effort in line with GE Aviation's aerospace product family.

Sensor Types

Discrete Inputs
 Discrete Output 5V/Open
 Tachometers/Speed Probe Inputs
 K Type Thermocouple Inputs
 4-20 mA inputs
 Resistive Temperature Device Inputs
 General Purpose Voltage inputs
 Current Output +/-120 mA
 Current Output +/-20 mA
 Variable Differential Transformer Excitation and Return
 Potentiometer

Key Features

- Rugged design
- Configurable but not programmable based on an aerospace compliant process
- Designed to interface with a wide range of sensors
- Dedicated over-speed detection and annunciation circuitry
- Application for ATEX Group II, category 3 compliance in progress
- Two TBase-10/100 Ethernet ports with the first application being PROFINET with software to support for other protocols available soon
- RS-485 serial bus can be configured for Modbus RTU master or slave communication

This flexibility reduces the cost of future requirement changes and enables a single part number to support multiple applications.

Specifications - IRIU-240

Temperature Range:
-40 °C to + 90 °C¹ ambient operating
Temperature Range non-operating:
-40 °C to + 120 °C ambient

Configurations and Quantities of Generic I/O

Interface Type	Quantity
Inputs:	
Speed/Frequency Input	3
Frequency Inputs	3
KType Thermocouple	15
VDT	6 ²
Voltage Inputs	42
Differential Voltage Inputs	14 ³
Frequency or Discrete Inputs	6
Differential Frequency or Discrete Inputs	14 ⁴
Outputs:	
Current Output +/- 120 mA	5
Open/5 V Discrete Output	21
VDT Excitation	3
Current Output +/- 20 mA	4
Ground Open Overspeed Outputs	3

¹ If Ethernet is being used in normal operation this value is de-rated to 70C

² Supports 3 differential pairs for Ratiometric measurement

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Interface Type

Serial Bus:	
RS-485 ⁵	1
CAN ISO11898 and CiA102 ⁶	2
10/100 BaseT Ethernet ⁷	2
Miscellaneous:	
24 VDC Power Input Configuration	2
Excitation +15 VDC via 1.1 kOhm	9
Excitation +15 VDC via 1.35 kOhm	14
Excitation +15 VDC via 2.7 kOhm	7
Excitation +15 VDC via 8.2 kOhm	4
Excitation +15 VDC via 261 Ohm Series Shunt	1
220 Ohm Ground Shunt	6
Ground	21
	165

Quantity

IRIU Functionality

The IRIU-240 has been designed to provide the following key functions:

- Capture up to many channels of sensitive and specialised inputs
- Filter, precondition, and convert input signals into the digital domain
- Excite sensors where required
- Transmit the preconditioned input values via the serial or Ethernet data bus
- Continuously monitor the health of the controller and associated I/O interfaces (wiring and sensors)
- Provide continuous indication of operational health via the serial or Ethernet data bus

³ 7 differential pairs

⁴ 7 differential pairs

⁵ Supports GE Aviation VMS Open protocol. A Modbus RTU Slave/master is in development; enquire for further detail

⁶ CANOpen stack in development; please enquire for further detail.

⁷ Supports PROFINET IO RT and IO IRT as standard. Ethernet/IP, POWERLINK CN, EtherCAT Slave, Sercos Slave, and Modbus /TCP Client Server available on enquiry.

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