



INDUSTRIAL ETHERNET I/O SYSTEMS

- Full range of Input/Output Modules
- Useful local display of inputs and outputs
- High speed and accuracy
- DIN rail mounted bus and power connections allow easy connection
- Reliable low-cost solution
- RS232 to Ethernet Gateway
- Wide range of Ethernet infrastructure devices available
- Can reduce cost of cable installation



Introduction

The E-100 and E-PORT Ethernet Gateway modules together with the ISO-SLICE isolated I/O modules allow virtually any process control variable or equipment to be connected to an Industrial Ethernet Network.

The systems also provides galvanic isolation between the process input and the Ethernet network. An E-100 module features a single input and output and can be used to add additional inputs and outputs to an existing Ethernet network.

The use of ISO-SLICE input and output modules allows complete Ethernet process control and monitoring systems to be built up.

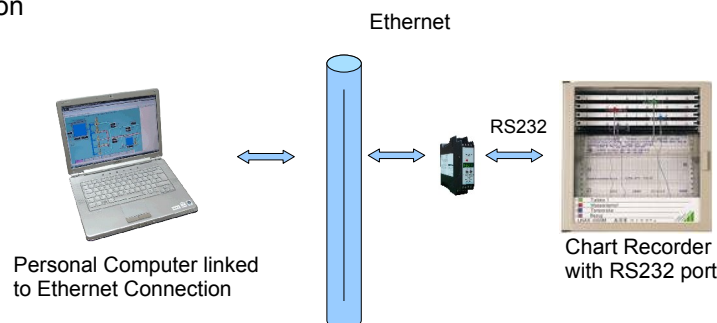
The E-PORT unit is a fast and simple way to connect legacy process control equipment with RS232 or 485 communication ports to an existing or new Ethernet network.

Some typical applications include the following:

Machine Monitoring and Control
Process Monitoring and Control
Industrial Data Acquisition systems
Multi-core cable replacement systems
Remote Web monitoring of Assets and Facilities
Environmental Monitoring and Control
Custom OEM designs available

The E-100, E-PORT and ISO-SLICE modules have been designed and are manufactured in the UK by Industrial Interface and utilise much of the circuitry of the field-proven ISOCON family of products. This ensures the same category leading reliability and performance will apply to this innovative range of Ethernet modules.

Typical E-PORT application





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Analogue to Industrial Ethernet
Isolating converter with
Universal Input stage and
expandable I/O



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RS232/485 to Ethernet Gateway
Allows any equipment with RS232
or 485 communications to be
connected to an Industrial
Ethernet network



ISO-SLICE **9**

Isolated I/O system, allows
additional inputs and outputs
to be connected to an E-100
module. Analogue, digital and
multiple units are available



E-BRIDGE **11**

Wireless Ethernet bridge
5 GHz IEEE 802.11a plug and play
Ethernet bridge



ETHERNET SWITCHES **13**

Wide range of Ethernet Switches
Hardened for Industrial use



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Can Bus to RS232 Ascii Gateway





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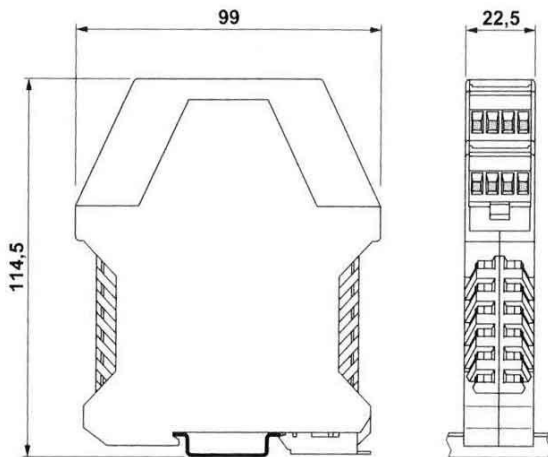
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E-100

ANALOGUE I/O TO INDUSTRIAL ETHERNET CONVERTER



Parameter	Min	Typ	Max	Comments
Supply Voltage	16	24V	30	
Supply Current (mA)	65		140	24 V dc supply
Input Impedance (Volt)		1MΩ		
Input Impedance (mA)		15Ω		
Volt drop (mA input)		0.3		At 20mA input
Output Linearity Error		±0.01%	±0.05%	
Temp Coefficient			±100ppm/°C	
Operating Ambient	0°C		55°C	
Relative Humidity	0%		90%	
Isolation Voltage <small>see note 1</small>	1kV			
Surge Voltage	2.5kV for 50μS			Transient of 10kV/μS
Notes	The process input level is shown on the 4 digit LED display. Figures based on 24 Vdc supply 20 degC ambient.			



Installation Data

Mounting	DIN Rail TS35
Orientation	Any
Connections	Screw Clamp with pressure plate
Conductor size	0.5-4.0mm
Insulation Stripping	12mm
Weight	Approx 120g

Connection Details

3.	Tx supply +ve		RTD 4 th wire
5.	Input mA +ve	T/C +ve	RTD +ve
4.	Input mA -ve	T/C -ve	RTD -ve
6.			RTD 3 rd wire
1.	Power Supply -ve		
2.	Power Supply +ve		

Ordering Information

Please supply:

Part Number:	E-100
Input Type:	e.g mA, Volt, T/C, RTD
Input Range:	e.g 4-20, 0-10, 0-500°C
Protocol	MODBUS TCP or other RS232 Version -RS
Power Supply:	24 Vdc

Options:

Extra I/O available through ISO-SLICE modules



E-PORT

RS232/485 TO INDUSTRIAL ETHERNET CONVERTER

- Enables existing equipment with RS232 comms to link to Ethernet Networks
- MODBUS TCP Protocol Stack, other protocols available
- 10/100 Mbps Ethernet (RJ45)
- Useful local display



Description

The E-PORT Ethernet Gateway module provides a straight forward method of connecting almost any device with serial communications to a new or existing Ethernet.

The unit obtains the relevant data from the serial device and stores these values before forwarding them on demand to the Ethernet network.

This enables limited distance serial RS232 or 485 communication links to be extended throughout the installation or onto the web.

Configuring the Ethernet connection is very straightforward using the MS Windows based device installer software. The unit also features a built-in web server for communications with a device via a standard Internet Browser.

This web capability can be used for remote configuration and real time monitoring.

Using the E-PORT is a simple way incorporate an Ethernet network onto any existing measurement and control system in a straightforward and reliable fashion.

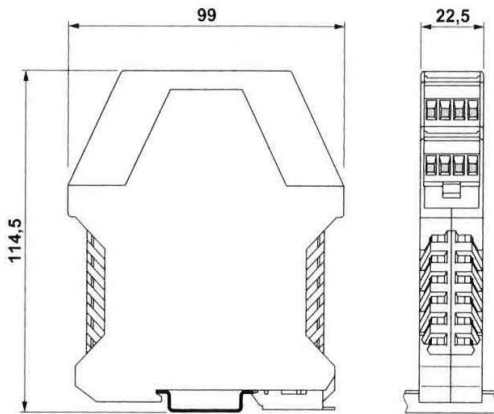
Applications include:

- Asset Monitoring and tracking
- Remote monitoring of existing plant
- Upgrade to existing Control systems

Because the E-PORT has been designed by Industrial Interface our software engineers are aqñB Blē o bostrmost



Parameter	Min	Typ	Max	Comments
Supply Voltage	16	24V	30	
Supply Current (mA)	65		140	24 V dc supply
Serial Interface		RS232		RS485 or 422 options
Data rates		2400		300 to 115,200 baud
Data Bits		7 or 8		
Parity				Odd / even / none
Ethernet Interface				10Base-T or 100Base-T
Connector		RJ45		
Protocols				TCP/IP UDP/IP etc
Temp Coefficient			±100ppm/°C	
Operating Ambient	0°C		70°C	
Relative Humidity	0%		90%	
Isolation Voltage <small>see note 1</small>	1kV			
Surge Voltage	2.5kV for 50µS			Transient of 10kV/µS
Notes	Local LED display can be used to display RS232 variables Figures based on 24 Vdc supply 20 degC ambient.			



Installation Data	
Mounting	DIN Rail TS35
Orientation	Any
Connections	Screw Clamp with pressure plate
Conductor size	0.5-4.0mm
Insulation Stripping	12mm
Weight	Approx 120g

Connection Details	
1.	Power Supply -ve
2.	Power Supply +ve

Ordering Information	
Please supply:	
Part Number:	E-PORT
Serial Comms:	e.g RS232
Protocol	MODBUS TCP or other
Power Supply:	24 Vdc
Options:	Custom configuration

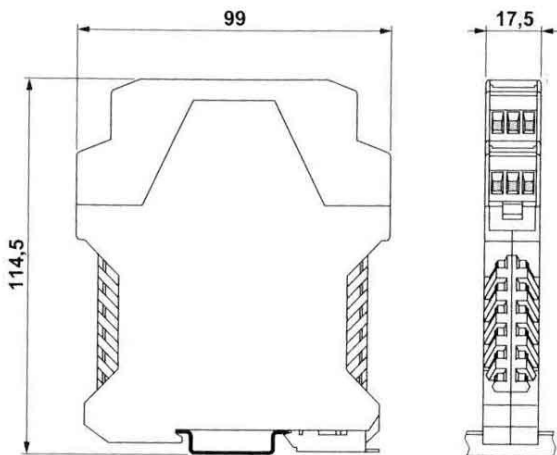
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ISO-SLICE

ISOLATED BUS I/O SYSTEM



Parameter	Min	Typ	Max	Comments
Supply Voltage	12	24V	36Vdc	
Supply Current (mA)		45	90	For 24 V dc supply (260mA for 50mS on start up)
Bus Connection				16-bit bus connection
Input Impedance (Volt)		1MΩ		Dependent on range (Typ=10V)
Input Impedance(mA)		15Ω		Dependent on range (Typ=20mA)
Volt drop (mA input)		0.3		At 20mA input
Output Linearity Error		±0.01%	±0.05%	
Temp Coefficient			±50ppm/°C	
Load Resistance Error			+/-5ppm/Ω	0 < R _L < 750Ω
Time Constant (10-90%)	25mS (fast)	60ms (normal)		Selectable fast/normal response
Operating Ambient	0°C		55°C	
Relative Humidity	0%		90%	
Isolation Voltage <small>see note 1</small>	1kV			
Surge Voltage	2.5kV for 50μS			Transient of 10kV/μS
Notes	Absolute maximum ratings indicate sustained limits beyond which damage to the device may occur. Accuracy figures based on 24Vdc supply, 4-20mA output with 250 Ω load and 20±C ambient. Device is protected against reverse polarity connection.			



Installation Data	
Mounting	DIN Rail TS35
Orientation	Any
Connections	Screw Clamp with pressure plate
Conductor size	0.5-4.0mm
Insulation Stripping	12mm
Weight	Approx 95g

Ordering Information

Part Number	Universal inputs	mA or Vdc inputs	RTD inputs	Thermocouple inputs	Digital inputs	Digital outputs
ISOSLICE-1	1					
ISOSLICE-2		8				
ISOSLICE-3			4			
ISOSLICE-4				4		
ISOSLICE-5					8	
ISOSLICE-6						4
ISOSLICE-7	Freq Input					



E-BRIDGE

POINT TO POINT WIRELESS ETHERNET BRIDGE

- Plug and play Ethernet secure wireless bridge, data rate up to 108 Mbps
- 5 Ghz IEEE 802.11a WiFi Band
- 10/100 Base Tx RJ45 auto-sensing network interface
- 300m line of sight range, 1.5km up to 50km systems also available



Description

The E-BRIDGE wireless Ethernet cable replacement system provides a simple way extending the range of an Ethernet network without expensive wiring.

With a typical line of sight range of 300m and an indoor range of typically 60m the E-BRIDGE has many applications in the factory automation environment.

These include adding a remote piece of equipment to an existing network without the use of additional cabling and wirelessly connecting two existing Ethernet networks together.

The system requires no complicated configuration, just connect the power supplies and RJ45 terminals and the system is ready to go.

The E-BRIDGE uses the WiFi 5GHz (IEEE 802.11a) wireless band so avoiding any interference with existing, more common 2.4Ghz band systems.

By using pre-configured WPA2-PSK security and a hidden SSID the system provides a secure, simple to fit, cost effective solution.

Example Application 1:



Parameter	Min	Typ	Max	Comments
Supply Voltage		5V		Supply available
Supply Current (mA)		700mA	1000mA	5 V dc supply
Radio Network				WiFi IEEE 802.11a compliant
Data rates			108 Mbps	
Transmitter		+ 20 dBm		5 Ghz 2 dBi antenna
Receiver		-92 dBm		5 GHz 2 dBi antenna
Dimensions		103x67x23		L x W x H in mm
Connectors		RJ45		
Operating Ambient	0°C		70°C	
Relative Humidity	5%		95%	non-condensing
Storage Temperature	-40°C		80°C	
Notes:				

Installation Data	
Mounting	Wall mounting
Orientation	Any
Connections	RJ45
Weight	Approx 225g
Dimensions	103 x 67 x 23 mm
	L x W x H

Connection Details	
1.	Power Supply -ve
2.	Power Supply +ve

Ordering Information	
Please supply:	
Part Number:	E-BRIDGE PACK
	Point to point wireless Ethernet bridge kit including two independent radio units with 2 dBi antennae, two 5Vdc supplies and two RJ45 cross over Ethernet cables (1 meter)

INDUSTRIAL ETHERNET INFRASTRUCTURE PRODUCTS





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CAN-PORT

CAN BUS TO RS232 ASCII GATEWAY

- Allows any device with a RS232 port to access CAN bus Data
- 2 High Speed CAN bus Ports
- Serial Port for GPS input
- Serial Port for Modem or PC
- J1939, OBD ISO and Raw CAN
- Cost-effective proven solution



Description

The CAN-PORT product is used to CAN bus and GPS data to RS232 compatible serial ASCII data.

This enables CAN bus data to be captured in real time and either logged using an RS232 data logger or to be made available on a Web site for remote logging and monitoring.

A typical application would be the monitoring of temperatures, speeds and location of delivery vehicles.

Two CAN interface ports are available which allows connection to two independent CAN networks. Using the CAN-PORT allows parameters of interest to be selected and statistical functions such as averaging or max/min to be carried out prior to logging. The unit also supports widely used protocols such as ISO-15765 and SAE-J1939 as well as raw CAN frames.

A common application for CAN networks is in vehicle, transport and marine applications where the positional data available from the built in GPS interface is an important part of the data collected.

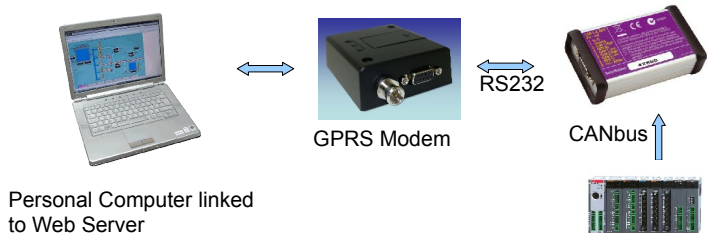
CAN-PORT can be configured and data collected by simple ASCII commands when connected to a PC using terminal software such as HyperTerminal.

Industrial Interface can supply and configure all the components required for your CAN bus monitoring system.

Example CAN bus Data.

PGN/SPN	Parameter	Units	B'cast
61444-512	Drivers Demand Engine	%	Yes
61444-191	Engine Speed	rpm	Yes
61444-1493	Source Address of Controlling Device for Engine currently co...	Adr	Yes
61443-974	Remote accelerator	%	Yes
61443-92	Percent Load at Current Speed	%	Yes
61443-91	Accelerator Pedal Position	%	Yes
61443-959	Accelerator Pedal Kickdown Switch	state	Yes
61443-958	Accelerator Pedal Low Idle Switch	state	Yes
61443-1437	Road Speed Limit Status	state	Yes
61442-607	Progressive Shift Disable	state	Yes
61442-606	Momentary Engine Overspeed Enable	state	Yes
61442-574	Shift in Process	state	Yes
61442-573	Retarder Enable Shift Assist Switch: Torque Converter	state	Yes
61442-580	Driveline Engaged	state	Yes
61442-522	Percent Clutch Slip	%	Yes
61442-191	Output Shaft Speed	rpm	Yes
61442-161	Input Shaft Speed	rpm	Yes
61442-1492	Source Address of Controlling Device for Transmission Contr...	Adr	Yes
61441-973	Engine Retarder Selection	%	Yes
61441-972	Accelerator Interlock Switch	state	Yes

Typical Application: Uploading Vehicle Info onto Web server



Vehicle Monitoring system with CAN bus data link





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Parameter	Min	Typ	Max	Comments
Supply Voltage	10Vdc	12Vdc	30Vdc	5V Power output is available to power GPS modules at 200mA max
Supply Current (mA)	50mA		250mA	15 V dc supply
CAN Port Speeds	10		1000kbits/s	Choose 10,20,50,125,250,500,1000
Physical Layer				ISO 11898-2 High Speed 2-wire CAN
Broadcast Parameters			150	
GPS Interface		RS232		NMEA-0183 Protocol
RS232 Aux port speed/con	300		115,200	ASCII ptcl RTS/CTS or XON/XOFF
Connectors				1 DE9 male Host PC/AT DTE pin-out 1 DE9 female CAN1/2 GPS POWER
Operating Ambient	-20°C		+70°C	
Relative Humidity			85%	non-condensing
Storage Temperature	-40°C		80°C	
Notes:				

Ordering Information	
Please supply:	
Part Number:	CAN-PORT
	Can-port complete with DE9 to screw terminal adaptor, Comms cable (DE9 to 5 way Screw Terminal) DE9 to DE9 PC cable User Guide and Host Software Getting Started Guide.