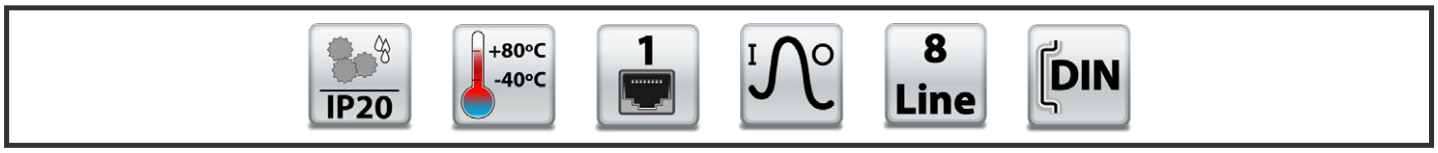
ED-549 Ethernet to Analogue I/O

8 Analogue Inputs

- 8 Analogue Inputs - Selectable as either current or Voltage
- Supports simple ASCII or industry standard Modbus TCP
- 1 Ethernet Port
- -30˚C to +80˚C/-22ºF to +176ºF Temperature range







Non conducting polyamide casing with removable numbered terminal blocks for easy wiring



+5 to +30 Volt Power Input enables the device to be run from USB, a vehicle battery or the factory floor



Integral DIN mount and slim design takes up minimal cabinet space

GB AEOF 00031/11

PLUG-IN Electronic GmbH • Am Sonnenlicht 5 • 82239 Alling • Tel.: +49 (0) 8141 3697-0 • info@plug-in.de • www.plug-in.de

ED-549

Ethernet to Analogue Inputs

Integrate with popular software packages or use with our free APIs

Easy Wire Removable screw terminal blocks

Supports Modbus TCP or ASCII commands



8 Analogue Input Lines

Serial Expansion Port suitable for ADAM modules

Integral DIN rail clip with earth

Ethernet Port

View from webpage - no software required

-30ºC to +80ºC/-22ºF to +176ºF temperature range

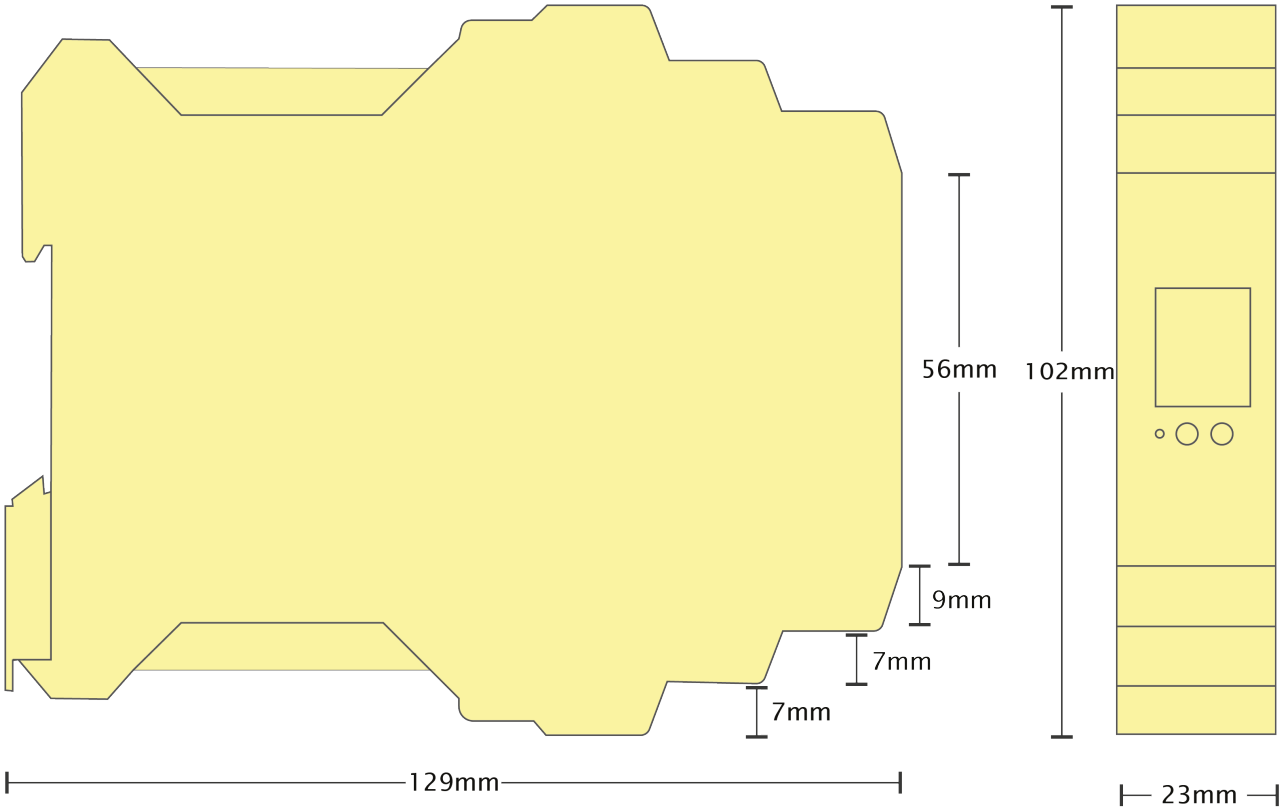
IP20 Non-conducting polyamide case with vents

Wide Range Input Power: +5VDC to +30VDC

Connectors		
Screw Terminals	3.5mm pitch	
Wire Thickness	#22 - #14, 0.5mm^2-2.5mm^2	
Power Supply		
Power Supply input	Unregulated +5V to +30Volts DC, reverse polarity protection	
Isolation	1500VRMS Magnetic isolation from Ethernet	
Environmental		
Operating Temperature	-40^{o}C to +80^{o}C / -40ºF to +176ºF	
Storage Temperature	-40^{o}C to +85^{o}C / -40ºF to +185ºF	
Ambient Relative Humidity	5 to 95% (non-condensing)	
Magjack LED Information		
Link/Activity LED	Solid green	Connection established
	Flashing Green	Data communication
Speed LED	Green	100Base-Tx
	Unlit	10Base-T
Ethernet		
Ethernet Port	RJ45 jack, 10/100Mhz autosensing, crossover auto sensing (Auto MDIX)	
Protection	1,500 Volts magnetic isolation between ports	
Housing	IP-20 rated non-conducting polyamide case	

ED-549

Ethernet to Analogue Inputs



Terminal Block Pin Outs

Terminal Block	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
Yellow	AGND	AIn 0-	AIn 0+	AIn 1-	AIn 1+
Orange	AGND	AIn 2-	AIn 2+	AIn 3-	AIn 3+
Grey	GND	RS-485 D-	RS-485 D+	RS-485 D+	RS-485 D-
Green	AGND	AIn 4-	AIn 4+	AIn 5-	AIn 5+
Blue	AGND	AIn 6-	AIn 6+	AIn 7-	AIn 7+
Black	-V	+VA	+VB	-V	Func GND
Power Input +5V to +30V DC 100mA@24V 2.5W Max					

Ethernet Port Pin Outs

PIN	FUNCTION
1	RD+ / TD+
2	RD- / TD-
3	TD+ / RD+
4	NC
5	NC
6	TD- / RD-
7	NC
8	NC

Lifetime Warranty and Support:
We can help with every aspect of your project, from getting you up and running to custom application.

ED-549 Ethernet to Analogue Inputs

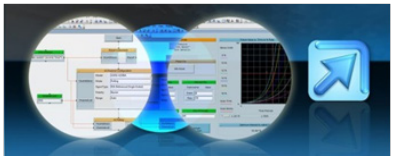
Analogue Channels - 8 Inputs	
IO Protocols	DCON ASCII over TCP or COM Port; Modbus TCP
Description	8 Analogue Inputs - Independently configurable as differential voltage inputs or current inputs
Isolation	Yes, Analogue inputs are isolated from the power, network and RS-485 ports
Current Input Ranges	±20mA, 0-20mA or 4-20mA
Input Resolution	16 bit resolution
Input Voltage Ranges	±10V, ±5V, ±2.5V, ±1V, ±500mV, ±250mV, ±150mV, ±75mV
Measurement	Built-in current sense resistors for current measurement
Measurement Accuracy	0.1% of full-scale range at 25˚C 0.3% of full-scale range over -30 to +80˚C
Measurement rate	8 measurements per second, divided between all enabled inputs
Input impedance (Voltage Mode)	>10MΩ
Low Noise	CMRR > 120dB
Rejects Mains Hum	NMRR > 100dB at 50Hz and 60Hz
Serial Expansion Port - RS485	
Half Duplex RS485 port allows connection and control of industry standard NuDAM, eDAM and ADAM modules using ASCII protocols.	
Power Supply	
Power Supply input	Unregulated +5V to +30Volts DC, reverse polarity protection
Isolation	1500VRMS Magnetic isolation from Ethernet

Software

OS Compatibility	Brainboxes' software provides a TCP or Serial COM port interface. All software versions and updates available to download from our website.
Microsoft	Legacy COM port drivers for Microsoft OS up to latest Windows 10
Other	TCP and web browser interface for other OSs & Linux, e.g. Android, Raspberry Pi

Boost.IO Manager	Lets you find, install and upgrade devices
Industry Standard Packages	The COM port based driver means devices are compatible with popular packages such as: LabView, MATLAB, Agilent VEE. So you can continue to get value from your existing development and process control system.
Software Platforms	APIs and sample program code for: Microsoft .NET, C#, Visual Basic, C++, JavaScript, PHP, Java, Objective-C, Python and more





Modbus

Device works as a Modbus TCP server. Modbus TCP can be used on the input and output lines.

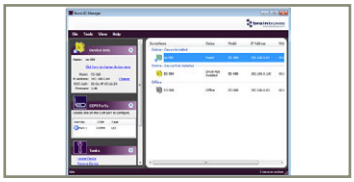
Examples from Modbus Tables	Modbus access type	Supported Modbus function codes	Logical address	984 style address	IEC 61131 address
Read DI counter values	Holding register	3	0x0000...	40001...	%MW0...
Clear DI counters	Coil	5, 15	0x0200...	00513	%M512...
Set/read digital outputs	Coil	1, 5, 15	0x0000...	00001...	%M0...

ASCII

The ED device's webpage has an interactive ASCII console where any command can be entered and it is immediately executed showing the device's response.

$01M	read the name of device address 01
!01ED-588	device 01 replies that its name is ED-588
$01F	read firmware version number of device address 01
!012.54	firmware version of device 01 is 2.54

Full command tables can be found in the device manual



ED-549 Ethernet to Analogue Inputs

Packaging Information	
Packaging	Installation CD including manual, Microsoft signed drivers & utilities, Quick Start Guide Device
Packaged Weight	0.233 kg, 8.22 ounces
Packaged Dims	160x135x49 mm, 6.3x5.3x1.9 inches
GTIN Universal Code	837324003369
Approvals	
Industry Approvals	Microsoft Certified Gold Partner, WEEE, RoHS, AEO (C-TPAT), CE
Product Support	
Warranty	Lifetime - online registration required
Support	Lifetime Web, Email and Phone Support from fully qualified, friendly staff who work in and alongside the Product Development Team
Additional Information	
OEM option	Available for bulk buy OEM
Made In	Manufactured in the UK by Brainboxes Winner 2005 European Electronics Industry Awards 'Manufacturer of the Year'
Customisable	Brainboxes operate a 'Perfect Fit Custom Design' policy for volume users.



ED Range
Remote I/O products available in a range of formats and specifications



PW-600
Power supply with connectors for UK, USA, EU and AUS mains socket. 'Tails' are suitable for connecting to screw terminal blocks.



PW-650
Power supply with USB connector and pre-wired screw terminal block. Suitable for use with 5V USB ports.



MK-588
6 coloured PCB connectors. Individually numbered pins; 5 x 3.5mm pitch screw connections with tension sleeve.

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BBED280622