PLIO04 Tech-Note

Multifunction I/O Module

- 10 Digital Inputs
- 10 Digital Outputs SSR
- 4 Analog Inputs configurable for voltage or temperature measurement
- 4 Analog Inputs configurable for voltage
- 1 PT100 input for cold junction compensation of thermocouples

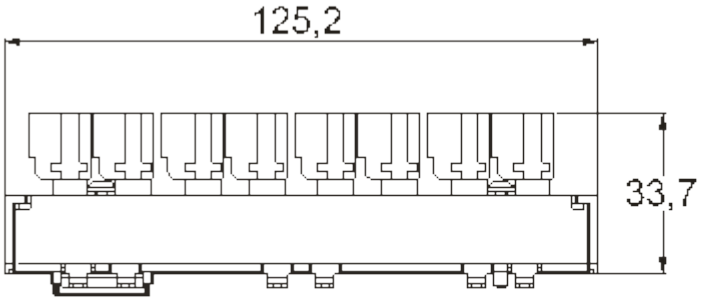
Highlights

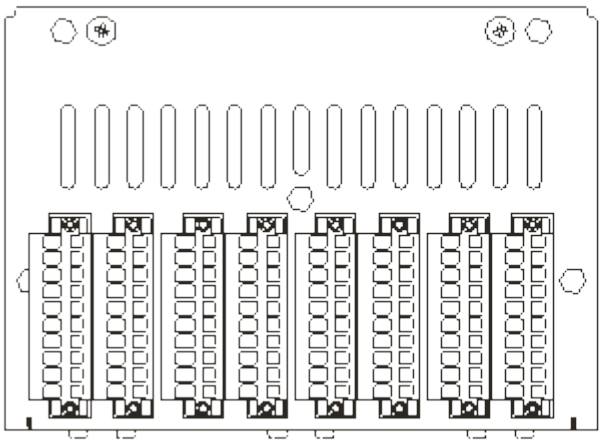
The PLIO04 is compact multifunction I/O module. The plug-in is compatible with Series 500, 500G, 600, eX and eXware. The PLIO04 is a programmable module offering a highly flexible configuration.
The plug-in is compatible with Series 500, 500G, 600, eX and eXware.

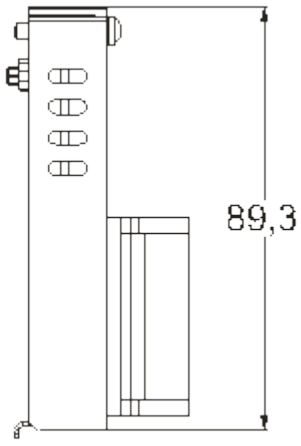
- Plug&Play operation. The I/O module is automatically detected when plugged-in.
- I/O configuration supported by a CODESYS I/O library.
- Compact and low power consumption.
- No additional power supply required in addition to the 24Vdc I/O power supply
- Optically isolated Digital I/O.
- Easy wiring with removable 3,5mm spring connectors.
- Analog Inputs are software programmable as voltage inputs or temperature inputs. They can be configured to support industrial temperature sensors like thermocouple and PT100 (RTD).
- Analog Inputs with Programmable Gain Amplifier (PGA) and Offset
- On-board FPGA-based measurement controller reduces main CPU overhead.
- Additional PT100 channel for cold junction compensation. To be used for thermocouples.
- Protective coating
- Advanced board-level diagnostic

PLIO04 - Technical Data

Digital Inputs	
Number of channels	10
Type of channel	Source active high (+24Vdc) inputs.
Input Voltage range	12 - 30 Vdc
Input impedance	3,3 KΩ
Optical isolation	Yes
Isolation	1500 Vrms
Input filter	Programmable 0.1ms to 20ms
Digital Outputs	
Number of Channels	10
Type of channel	SSR, 2 contacts
Max load voltage	30 Vdc
Max load current	1.4 A
Output delay time	5ms max
Optical isolation	Yes
Isolation	1500 Vrms
Analog Inputs	
Channels	4 differential or 8 single ended Individually programmable.
Optical isolation	No
Measurement type	"Voltage Temperature (various types of thermocouples or PT100 RTD) with external cold junction compensation "
A/D resolution	12 bits
Accuracy @ 25°C	0,2% typ.
Voltage input range and accuracy	Bipolar: ± 100mV 0.1% FS ± 500mV 0.1% FS ± 1V 0.1% FS ± 5V 0.1% FS ± 10V 0.1% FS Unipolar:0-100mV 0.1% FS 0-500mV 0.1% FS 0-1V 0.1% FS 0-5V 0.1% FS 0-10V 0.1% FS"
Voltage Input absolute max. ratings	± 15Vdc (referenced to analog ground)
Voltage input linearity error	0.1%
Voltage mode input impedance	>2 MΩ
Thermocouple input	E (-270/1000°C) J (-210/760°C) K (-270/1370°C) R (0/1768°C) S (0/1768°C) T (-270/400°C)
Cold Junction compensation	External with dedicated PT100 input
PT100 RTD input	2, 3 or 4 wires transducer interface with break and short circuit detection
Temperature range	-100°C÷850°C
PT100 accuracy @ 25 °C	Range 1 0÷157Ω 0.2% Range 2 0÷530 Ω 0.3% Range 3 0÷1020 Ω 0.4% Range 4 0÷8800 Ω 0.5%"
Analog Inputs	
Channels	4 single ended
Optical isolation	No
Measurement type	Voltage
A/D resolution	12 bits
Accuracy @ 25°C	0,2% typ.
Voltage input range and accuracy	Unipolar: 0-100mV 0.1% FS 0-500mV 0.1% FS 0-1V 0.1% FS 0-5V 0.1% FS 0-10V 0.1% FS"
Voltage Input absolute max. ratings	± 15Vdc (referenced to analog ground)
Voltage input linearity error	0.1%
Voltage mode input impedance	>2 MΩ
Connectors	
Connector Type	Omnimate range header/plugs 3.5mm-10 contacts (two piece terminal blocks) SL-SMT 3.5/180F Box + BLZF 3.5/180F
Environmental Conditions	
Operating temperature	0 to 50 °C (vertical installation)
Storage temperature	-20 to +70 °C
Operating and storage humidity	5 – 85 % relative humidity, non-condensing
Protection class	IP20
Approvals	
CE	Emission EN 61000-6-4, Immunity EN 61000-6-2 for installation in industrial environments Emission EN 61000-6-3, Immunity EN 61000-6-1 for installation in residential environments
RCM	Yes







Ordering Information

Model	Part Number	Description
PLIO04	+PLIO04U0P1	Multifunction I/O Module. 10 DI, 10 DO, 8 AI