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BrainChild

BC-140.40E

IO DATA ACQUISITION MODULES

These modules are used with HMI, PLC or SCADA via Modbus RTU protocol. IO Studio is its PC software for setting communication. Data Acquisition Studio is its PC software for DAQ purpose



GENERAL CHARACTERISTICS

Environmental & Physical

Operating temperature	-10 a 50 °C
Storage temperature	-40 a 85 °C
Dimensions	23x109x98mm
Weight	105 g
Mounting	DIN Rail

Communication

Interface	RS485 2 hilos
Bau Rate	2400,4800,9600,19200,38400,57600,115200
Parity	None, Even, Odd
Modbus address setting	By Dip Swicht
Modbus Max.address	127
Stop Bits	1,2
Data Bits	8

Approval Standards

Safety	IEC950
EMC	IEC61000-4-2-A1 Nivel 2 IEC61000-4-3-A1 Nivel 2 IEC61000-4-4 Nivel 3 CISPR11:1997A1/ EN55011:1998 Group 1 Class A

FEATURES

Portable
Modbus connectivity
Simple setup and easy handling
Upto 128 Module on RS485 network
Isolated modules available for special applications
Low-cost IO modules addition to existing PLC system
Standard software for module configuration and trouble shooting
Data acquisition software for data storage and Real-time analysis on PC
IO modules used with the third party softwares via Modbus RTU Protocol
Interface with field devices to provide real-time data for SCADA / PLC / HMI
LEDs on every modules for digital IO status, communication and power supply
Different types of IO Modules AI, AO, DI, DO, RTD, Thermocouples are available
Direct reading of temperature without scaling by using RTD and Thermocouple Modules

ANALOG MODULES RTD AND THERMOCOUPLES INPUTS

MODEL	IO-6RTD	IO-8TC	IO-8TCS
Inputs	6 RTD	8 THERMOCOUPLE	8 ISOLATED THERMOCOUPLE
Type	PT100, Ni 120, PT1000, Ni1000 -DIN, Ni1000 Landys+Gyr 10-400 Ω, 100-4000 Ω	K,E,T,N,B,S,R, mV,C,D y G	K,E,T,N,B,S,R ,mV,C,D y G
Connexionn	2 / 3 wires	2 wires	2 wires
Resolution	0,1 °C	0,1 °C	0,1 °C
Sample rate	31 samples/min	41 samples/min	37 samples/min
Drift	100 PPM/°C	100 PPM/°C	100 PPM/°C
Isolation	1500V RMS	1500V RMS	1500V RMS 350V between channels
Power supply	12 to24 Vcc	12 to24 Vcc	12 to24 Vcc

DIGITAL MODULES

MODEL	IO-16DI	IO-16DO	IO-4RO	IO-8DIO
Digital Inputs	16			8
N° of counters	16			8
Counter resolution	32 bit			32 bit
Counter frequency	1KHz			1Khz
Counter mode	Up/Down			Up/Down
Pulse width	Minimum 500 µs			Minimum 500 µs
Input Impedance	2200Ω			2200Ω
Isolation	1500V RMS			1500V RMS
Status indication	Led for each channel			Led for each channel
Digital Outputs	0	16	4	8
Type	-	Open collector	Relay Form C	Open collector
Maximum load current.	-	100mA/channel	0,5 1 A /channel	100 mA/channel
Maximum load voltage	-	36 Vcc	220 Vca 28 Vcc	36 Vcc
Isolation	-	1500V RMS	1000V RMS	1500V RMS
Status indication	-	Led for each channel	Led for each channel	Led for each channel
Power supply	12 to24 Vcc	12 to24 Vcc	24 Vcc	12 to24 Vcc

COMBINATION MODULE

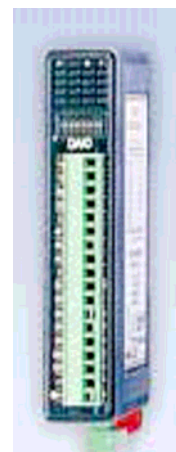
MODEL	IO-16DI
Analog Inputs	2
Type	0..20mA / 0..10V Resolution 12 bit
Input Impedance	250 Ω for current , 190 KΩ for voltage
Analog Outputs	1
Type	0(4)-20 mA/0(2)-10 V DC
Resolution	12 bit
Drift	100 PPM/°C
Accuracy	0,05 % de span
Load	1000 Ω a 24 V for current, 2000 Ω for voltage
Digital Inputs	4
Type	Counter
Counter resolution	32 bit
Counter frequency	50 Hz
Pulse Width	20 ms
Voltage	10 – 26 Vcc
Digital Outputs	2
Type	Open collector
Maximum load current.	100 mA/ output
Maximum load voltage	36 Vcc
RTD Inputs	2
Type	2 or 3 wires. PT100, Ni120, PT1000
Status indication	For power on and communication only
Power supply	12 to24 Vcc

CURRENT AND VOLTAGE INPUTS

MODEL	IO-8AII	IO-8AIV	IO-8AIIS	IO-8AIVS
Analog Input	8	8	8	8
Type	Single Ended 0...20 mA	Single Ended 0..10 Vcc / 0..5Vcc	Differetcial 0...20 mA Isolated	Differential 0..10 Vcc / 0..5Vcc Isolated
Offset by switch	4 mA	2 Vcc 0..10V 1 Vcc 0..5V	4 mA	2 Vcc 0..10V 1 Vcc 0..5V
Resolution	12 bit (0-4095)	12 bit (0-4095)	12 bit (0-4095)	12 bit (0-4095)
Sample Rate	12,5 samples / s	12,5 samples / s	12,5 samples / s	12,5 samples / s
Input Inpedance	250Ω	20 K Ω	250Ω	110K Ω
Isolation (Ch – Ch)	-	-	350 V	350 V
Drift	50 ppm/°C	50 ppm/°C	100 ppm/°C	100 ppm/°C
Accuracy	0,2 % of span	0,2 % of span	0,2 % of span	0,2 %of span
Isolation	1500V RMS	1500V RMS	1000V RMS	1500V RMS
Power supply	12 to24 Vcc	12 to24 Vcc	24 Vcc	12 to24 Vcc

ANALOG OUTPUTS

MODEL	IO-8AOI	IO-8AOV
Analog Outputs	8	8
Type	Current 0..20 mA	Voltage 0..10Vcc
Offset by switch	4 mA	2 Vcc
Resolution	12 bit (0-4095)	12 bit (0-4095)
Drift	100 ppm/°C	100 ppm/°C
Accuracy	0,05 % of span	0,05 % of span
Load	1000Ω a 24 Vcc	2000Ω
Isolation	1500V RMS	1500V RMS
Power supply	12 to24 Vcc	12 to24 Vcc



MODEL	DESCRIPTION
IO-16DI	16 digital inputs including counters
IO-16DO	16 digital outputs
IO-4RO	4 relay outputs
IO-8DIO	8 digital inputs + 8 digital outputs
IO-8TC	8 thermocouple inputs, including 0/50mV and ± 100mV
IO-8TCS	8 thermocouple inputs, including 0/50mV and ± 100mV. Fully isolated
IO-6RTD	6 input RTD. PT100, Ni120, PT1000, Ni1000, Ni1000LG and Ohms
IO-8AII	8 analog inputs, 4-20 mA 0/20mA
IO-8AIV	8 analog inputs, 0/5V, 1/5V, 0/10V, 2/10V
IO-8AIIS	8 analog inputs, 4-20 mA ± 20mA 0/20mA . Fully isolated
IO-8AIVS	8 analog inputs, 0/5V, 0/10V, ± 1V, ± 10V . Fully isolated
IO-8AOI	8 analog outputs, 0 (4) / 20mA
IO-8AOV	8 analog outputs, 0 (2) / 10V
IO-DAIO	2 RTD input + 2 analog inputs 0 (4) / 20mA, 0 (2) / 10V + 4 digital inputs 1 analog output 0 (4) / 20mA, 0 (2) / 10V + 2 digital outputs