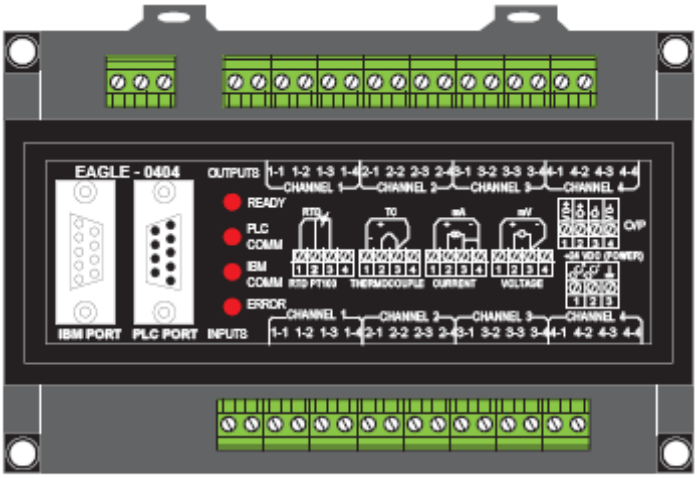
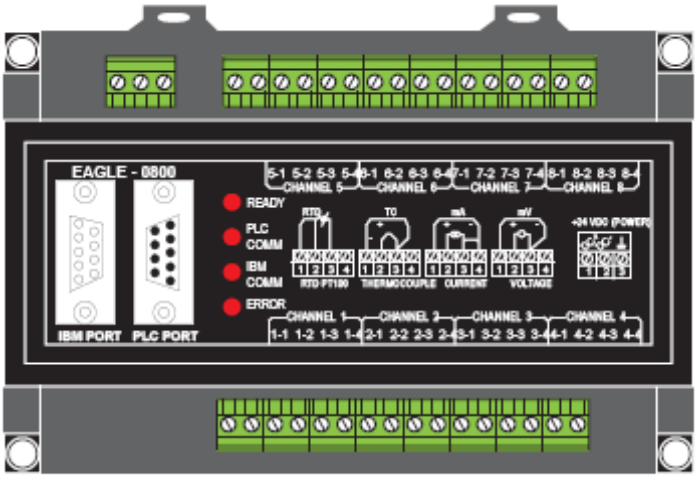
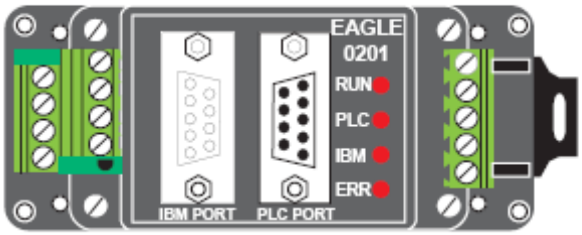


Eagle-0404



Eagle-0800



Eagle-0201

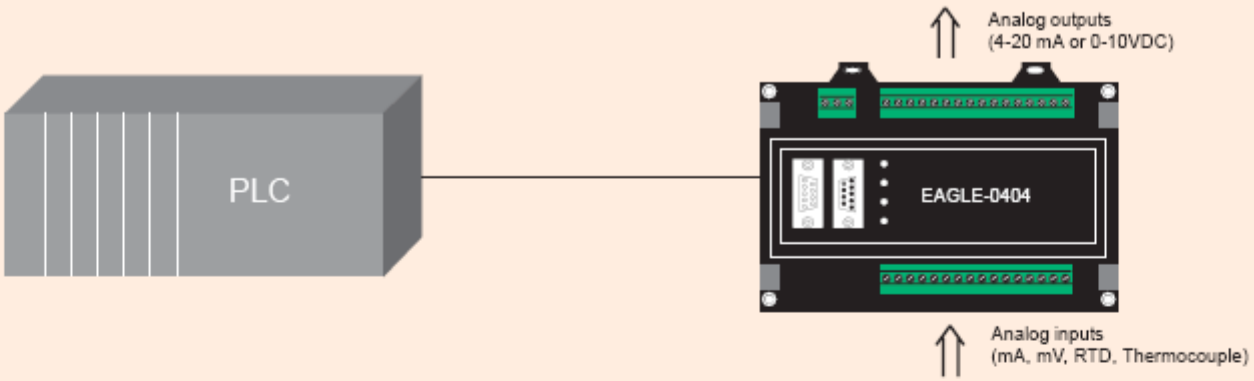
Universal Analog I/O Modules:

- DIN Rail or Panel mounted compact I/O modules
- Indication for Diagnostics, Power and Communication
- Adds I/O capability to your PLC, SCADA and Modbus networked devices
- Programmable inputs allow same modules to accept RTD, Thermocouple, mA, mV
- 12 bit 8 universal analog inputs with or without analog outputs
- Direct connection to PLC programming terminal with support for most PLC's
- Direct connectivity as Modbus Master or can be multidropped as Modbus Slave
- Common Programming software for the entire Eagle family.....FREE!!
- CE and CSA marked

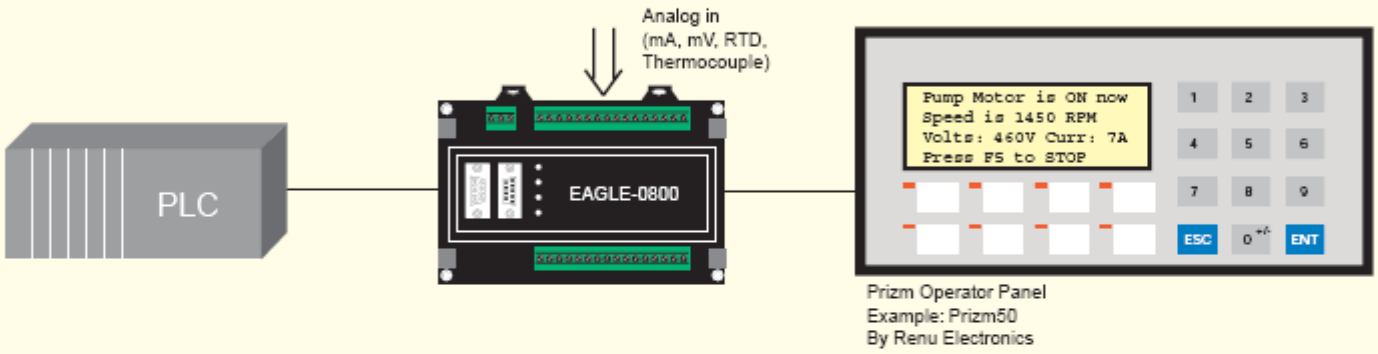
Possible Applications

Our customers have used the Eagle units in various applications across many industries. Typical configuration includes the following:

1. Add analog I/O to your PLC.

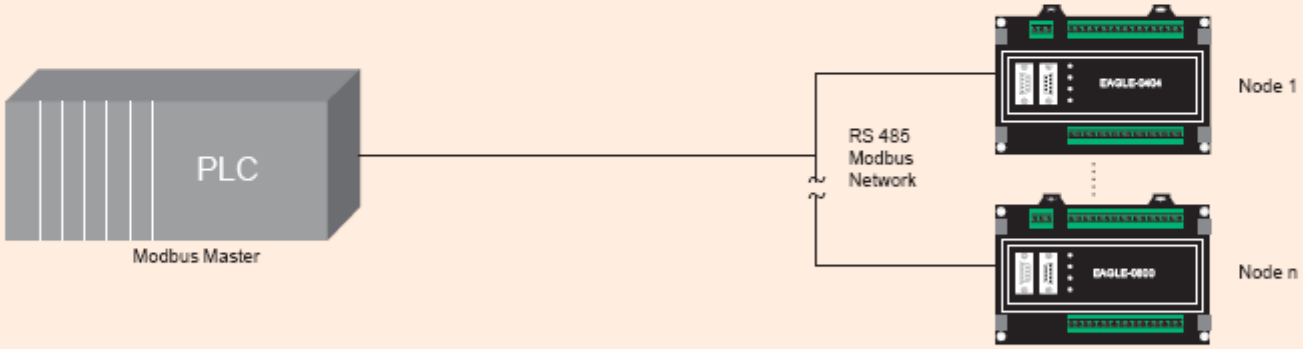


2. Prizm Operator Interface on Pass-through port.

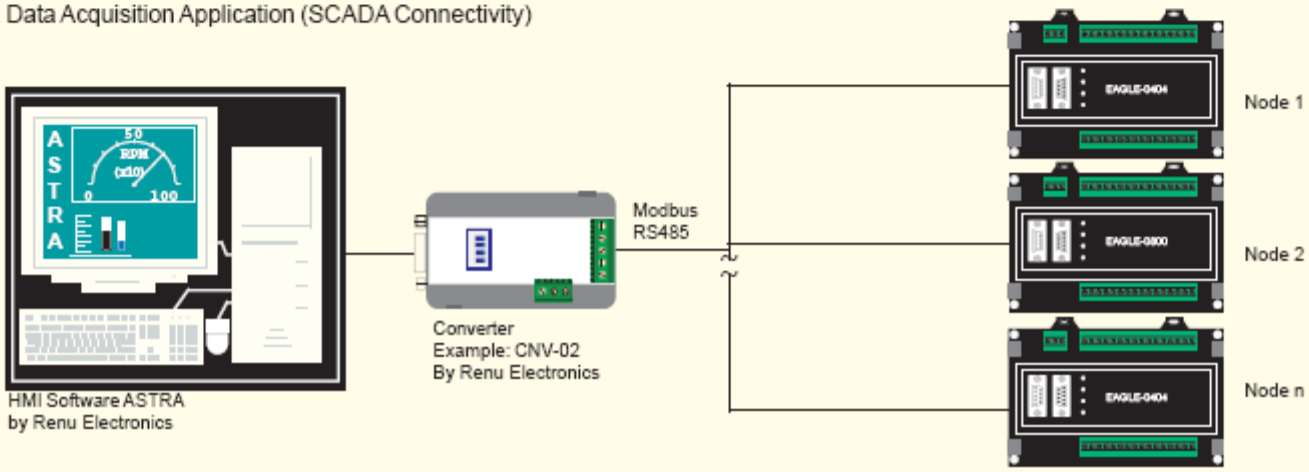


Prizm Operator Panel
Example: Prizm50
By Renu Electronics

3. Multiple Eagle units (Modbus Slaves) connected to Modbus Master



4. Data Acquisition Application (SCADA Connectivity)



HMI Software ASTRA
by Renu Electronics

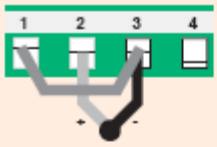
Converter
Example: CNV-02
By Renu Electronics

* Images not to scale.

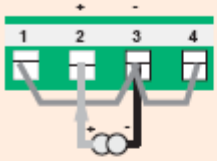
Typical Wiring Diagrams

Inputs:

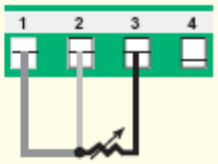
For Thermocouple Input



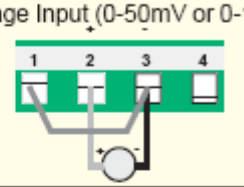
For Current Input (0-20mA or 4-20 mA)



For RTD Input

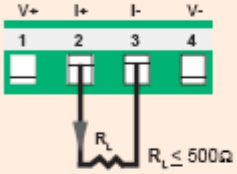


For Voltage Input (0-50mV or 0-100mV)

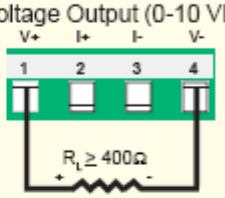


Outputs:

For Current Output (4-20 mA)



For Voltage Output (0-10 VDC)



Specifications

For Voltage inputs:
Uses 0-100 mV input range resolved in 12 bits.
For higher input ranges, use externally calibrated shunt or contact factory
Total error: ± 0.1% of scale ± 1 bit.

For Current inputs:
Uses 0-20mA input range with 5Ω precision shunt resolved in 12 bit. Total error: ± 0.1% of scale ± 1 bit.

For RTD input:
Uses 3 wire compensation technique. Current sense is 0.5mA.
Power dissipated in RTD is 0.025mV @ 100Ω.
Range supported: -200 to 850°C.

For Thermocouple Input:
Uses 0-100mV input range resolved into 12 bits for positive input and resolved in 11 bits for negative inputs.
Cold junction error is 1° maximum and 0.5° typical.
Total error: ± 0.5% of scale ± 1 bit + CJC error

Input Type	Temperature Range	1 Bit Corresponds to
J	-210 to 770°C	0.43°C
K	-200 to 1373°C	0.61°C
E	-200 to 1000°C	0.32°C
R	-50 to 1769°C	2.04°C
S	-50 to 1769°C	2.31°C
B	0 to 1820°C	3.21°C
N	-200 to 1300°C	0.7°C
T	-200 to 400°C	0.47°C

Analog Outputs:

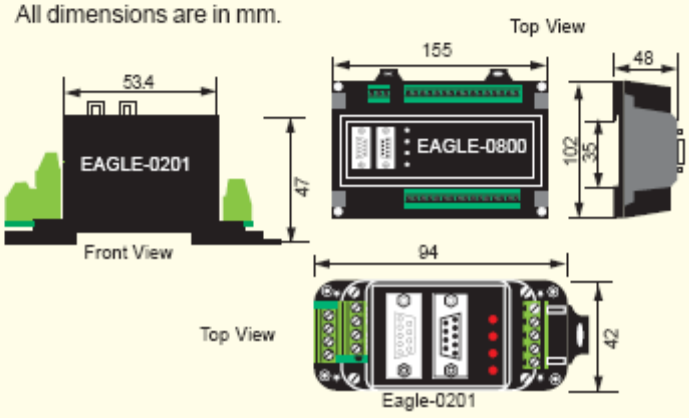
Resolution	12 Bit
Load:	
4-20 mA	Less than 500 Ω
0-10 V DC	Minimum 400 Ω
Temperature Drift (for Digital Count)	60 PPM

General Specifications

Power	: 24V DC ± 5%, 3.5W maximum
Operating Temperature	: 0° to 50°C
Storage Temperature	: -20° to 80°C
Humidity	: 10% to 90% (Non condensing)
Mounting	: DIN rail or back panel mounting
Dimensions	:
Eagle-0404, Eagle-0800	: 155mm X 102mm X 48mm
Eagle-0201	: 94mm X 42mm X 47mm
Immunity to ESD	: 8 kV air, 6kV contact as per IEC 61000-4-2
Transient Immunity	: 2kV as per IEC 61000-4-4
Radiated Immunity	: 10V/meter as per IEC 61000-4-3
Emissions	: EN55011 CISPR A
Isolation	: Analog section from digital. No isolation between channels.
IBM Port	: Connects to PC for application download or operator interface for Pass-through.
PLC Port	: Connects to PLC.
Response time	: Depends on driver. Typical 25 mSec / Channel

Dimensions

All dimensions are in mm.



Basic Operations

Eagle units accept universal field inputs (such as RTD, T/C, mA, and mV) and convert them to actual field values like temperature, pressure etc. before sending them to the PLC. Similarly It can also read values in PLC registers and scale the 4-20mA output accordingly.

Input and Output channels of Eagle are user configurable and any combination of input types is possible. Eagle Setup Software helps the user configure the Eagle units and use them as per his requirements.

Linearisation: 16 point linearisation is provided for mV and mA inputs, which helps user to convert non-linear segments into required engineering value.

System requirements for Eagle Setup Software are:

Windows Version	:	Microsoft Windows 3.1 or higher
Processor	:	386 or higher
Hard disk Space	:	3 MB or more
Serial Mouse	:	Required
RAM	:	2 MB or more
Display resolution	:	640 x 480 (VGA) or better
Display colors	:	16 colors or more

Other Items required for Eagle configuration:

1. Eagle unit
2. +24VDC regulated power supply
3. IBM Cable (Partcodes: IBM 0909-1 or IBM 0925-1)
4. Eagle Setup Software
5. Eagle to Device cable

Models

Model	Inputs	Outputs	Ordering Part Number	Listing
Eagle 0201	2 Universal	1 Analog (4-20 mA)	Eagle-0201-U	CE / CSA
Eagle 0404	4 Universal	4 Analog (4-20 mA / 0-10 V DC)	Eagle-0404-U	CE / CSA
Eagle 0800	8 Universal	0	Eagle-0800-U	CE / CSA
Eagle 1600*	16 Linear	0	Eagle-1600-L	--
Eagle 0008*	0	8 Analog (4-20 mA / 0-10 V DC)	Eagle-0008-U	--

More models are being added. We also make custom models
* Coming soon. Contact factory for details.

PLC's Supported

PLC	COM Port	Cable Part Numbers		Pass-through Support
		Eagle0404, Eagle0800	Eagle0201	
AB Micrologix	RS232	SC-E-027A-00	SC-E-027A-00	✓
AB SLC 500 (DF1 and DH485)	RS422	SC-E-007-00	-	Network
Aromat FP0 Series	RS232	SC-E-015A-00	SC-E-015A-00	✓
Aromat FP1	RS485	SC-E-015B-00	SC-E-015B-00-S1	✓
Delta DVP Series	RS232	SC-E-044-00	SC-E-044-00	✓
Fuji NB0	RS485	SC-E-028-00	SC-E-028-00-S1	X
GE Series 90-30 (SNP)	RS485	SC-E-002-00	SC-E-002-00-S1	✓
GE VersaMax, RJ45	RS232	SC-E-002A-00	SC-E-002A-00	✓
GE VersaMax, DB9	RS232	SC-E-002B-00	SC-E-002B-00	✓
IDEC Micro^3	RS422	SC-E-025A-00	SC-E-025A-00	✓
IDEC Microsmart	RS232	SC-E-025B-00	SC-E-025B-00	✓
Keyence KV Series	RS232	SC-E-018-00	SC-E-018-00	✓
Koyo DL205	RS232	SC-E-005-00	SC-E-005-00	X
LG-Master K Series	RS232	SC-E-037-00	SC-E-037-00	X
Mitsubishi FX0	RS485	SC-E-008A-00	SC-E-008A-00-S1	✓
Modbus Slave	RS232/RS485*	User Supplied	User Supplied	Multidropping
Omron (Host Link) - 9 pin	RS232	SC-E-006B-00	SC-E-006B-00	✓
Omron (Host Link) - 25 pin	RS232	SC-E-006C-00	SC-E-006C-00	✓
Siemens S7-200 / Micro	RS485	SC-E-029-00	SC-E-029-00-S1	✓
Telemecanique TSX07/37	RS422	SC-E-026A-00	SC-E-026A-00-S1	Network
Telemecanique TSX17	RS485	SC-E-017A-00	SC-E-017A-00-S1	X
Toshiba T1	RS232	SC-E-019A-00	SC-E-019A-00	✓
Toshiba T2	RS232	SC-E-019B-00	SC-E-019B-00	✓

* Software Selectable

New PLC drivers are constantly added. Please contact factory for more information. We welcome an opportunity to develop new drivers.

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