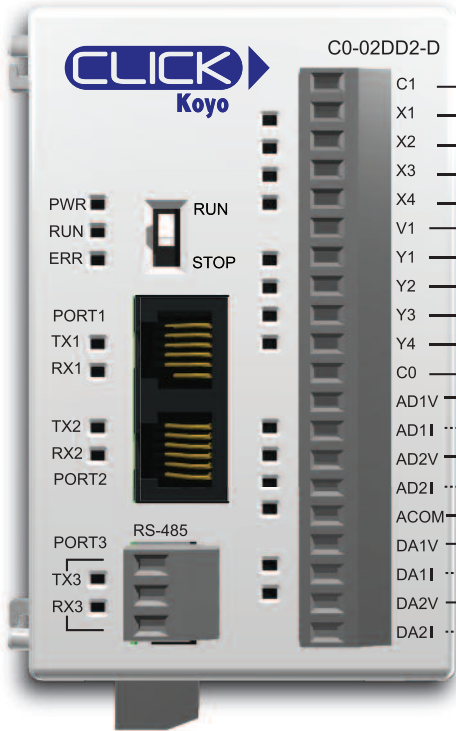


# Analog CPU Module Specifications

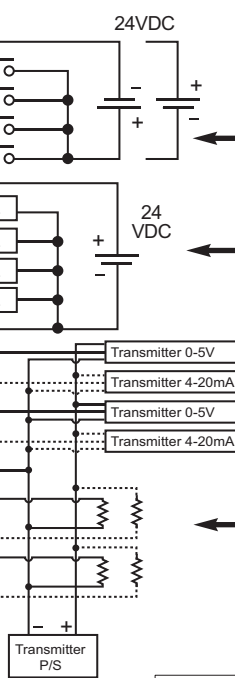
C0-02DD2-D



4 DC Input/4 Sourcing DC Output; 2 Analog In/2 Analog Out Micro PLC



Wiring Diagram



General Specifications	
Current Consumption at 24VDC	140 mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.3 oz (150 g)

See Discrete I/O Specifications - Inputs (X1 through X4)

See Discrete I/O Specifications - Outputs (Y1 through Y4)

See Analog Specifications - Voltage & Current Input (AD1V through AD2I)

See Analog Specifications - Voltage & Current Output (DA1V through DA2I)



**NOTE: WHEN USING ANALOG CPUs, YOU MUST USE CLICK PROGRAMMING SOFTWARE VERSION V1.12 OR LATER.**



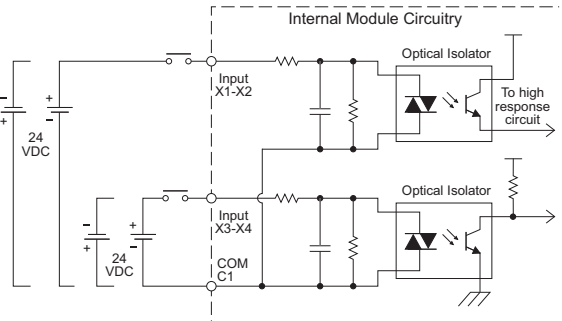
**IMPORTANT: YOU CAN USE ONLY ONE TERMINAL (VOLTAGE OR CURRENT) PER CHANNEL. YOU MUST ALSO SELECT THE ANALOG TYPE (VOLTAGE OR CURRENT) IN THE CPU BUILT-IN I/O SETUP IN THE CLICK PROGRAMMING SOFTWARE (PULL-DOWN MENU SETUP > CPU BUILT-IN I/O SETUP).**

X1 - X4

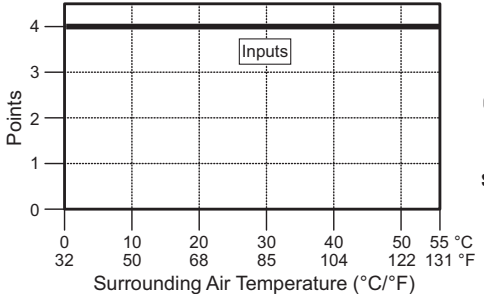
C0-02DD2-D Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Sink/Source)
Operating Voltage Range	24 VDC
Input Voltage Range	21.6 - 26.4 VDC
Input Current	X1-2: Typ 5 mA @ 24 VDC X3-4: Typ 4 mA @ 24 VDC
Maximum Input Current	X1-2: 6.0 mA @ 26.4 VDC X3-4: 5.0 mA @ 26.4 VDC
Input Impedance	X1-2: 4.7 kΩ @ 24 VDC X3-4: 6.8 kΩ @ 24 VDC
ON Voltage Level	X1-2: > 19 VDC X3-4: > 19 VDC
OFF Voltage Level	X1-2: < 4 VDC X3-4: < 7 VDC
Minimum ON Current	X1-2: 4.5 mA X3-4: 3.5 mA
Maximum OFF Current	X1-2: 0.1 mA X3-4: 0.5 mA
OFF to ON Response	X1-2: Typ 5 μs Max 20 μs* X3-4: Typ 2 ms Max 10 ms
ON to OFF Response	X1-2: Typ 5 μs Max 20 μs* X3-4: Typ 3 ms Max 10 ms
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)

\* Threshold level is 70% amplitude.

Equivalent Discrete Input Circuit



C0-02DD2-D Temperature Derating Chart



There are no ZipLink pre-wired PLC connection cables and modules for the analog CPUs (cannot mix discrete I/O and analog I/O signals in a ZIPLink cable).

# Analog CPU Module Specifications

## C0-02DD2-D (cont'd)

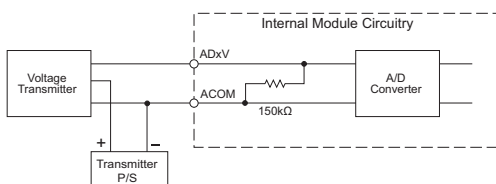
### Y1 - Y4

C0-02DD2-D Discrete I/O Specifications - Outputs	
<b>Outputs per Module</b>	4 (Source)
<b>Operating Voltage Range</b>	24 VDC
<b>Output Voltage Range</b>	19.2-30 VDC
<b>Maximum Output Current</b>	0.1 A/point , 0.4 A/common
<b>Minimum Output Current</b>	0.2 mA
<b>Maximum Leakage Current</b>	Y1 : 0.1mA @ 30VDC; Y2-4 : 0.1mA @ 30VDC
<b>On Voltage Drop</b>	Y1: 1 VDC @ 0.1A; Y2-4 : 0.5VDC@ 0.1mA
<b>Maximum Inrush Current</b>	150 mA for 10 ms
<b>OFF to ON Response</b>	Y1: typ 5 $\mu$ s; max 20 $\mu$ s; Y2-4: < 0.5 ms
<b>ON to OFF Response</b>	Y1: typ 5 $\mu$ s; max 20 $\mu$ s; Y2-4: < 0.5 ms
<b>Status Indicators</b>	Logic Side (4 points, red LED)
<b>Commons</b>	1 (4 points/common)

### AD1V - AD2I

C0-02DD2-D Analog Specifications - Voltage Input	
<b>Number of Channels</b>	2 (voltage/current selectable)
<b>Input Range</b>	0 - 5 VDC (6 VDC Max.)
<b>Resolution</b>	12 bit
<b>Conversion Time</b>	50 ms
<b>Input Impedance</b>	150 k $\Omega$
<b>Input Stability</b>	$\pm$ 2 LSB maximum
<b>Full-Scale Calibration Error</b>	$\pm$ 1.2% maximum
<b>Offset Calibration Error</b>	$\pm$ 5 mV maximum
<b>Accuracy vs. Temperature Error</b>	$\pm$ 100 ppm / $^{\circ}$ C maximum

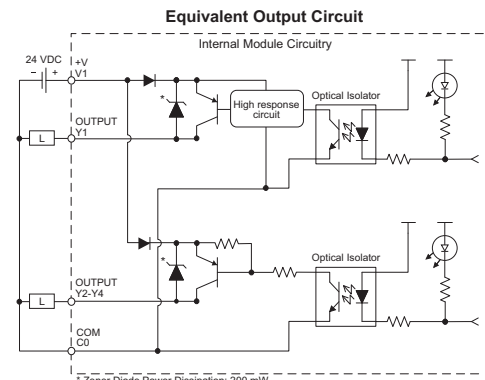
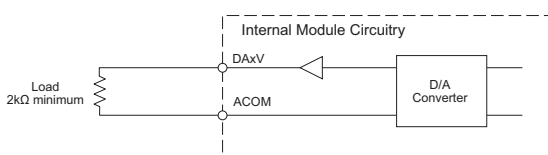
Analog Voltage Input Circuit



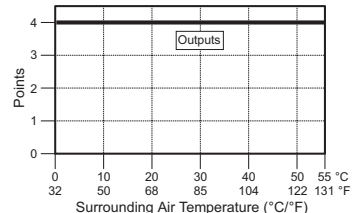
### DA1V - DA2I

C0-02DD2-D Analog Specifications - Voltage Output	
<b>Outputs per Module</b>	2 (voltage/current selectable)
<b>Output Range</b>	0 - 5 VDC
<b>Resolution</b>	12 bit
<b>Conversion Time</b>	1 ms
<b>Load Impedance</b>	2 k $\Omega$ minimum (output current 2.5 mA maximum)
<b>Full-Scale Calibration Error</b>	$\pm$ 0.8% maximum
<b>Offset Calibration Error</b>	$\pm$ 5 mV maximum
<b>Accuracy vs. Temperature Error</b>	$\pm$ 100 ppm / $^{\circ}$ C maximum

Analog Voltage Output Circuit

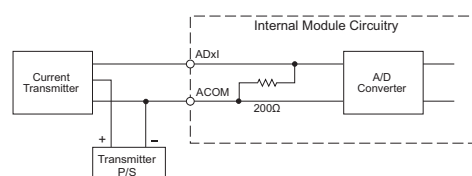


C0-02DD2-D Temperature Derating Chart



C0-02DD2-D Analog Specifications - Current Input	
<b>Inputs per Module</b>	2 (voltage/current selectable)
<b>Input Range</b>	4 - 20 mA (sink)
<b>Resolution</b>	12 bit
<b>Conversion Time</b>	50 ms
<b>Input Impedance</b>	200 $\Omega$
<b>Input Stability</b>	$\pm$ 2 LSB
<b>Full-Scale Calibration Error</b>	$\pm$ 1% maximum
<b>Offset Calibration Error</b>	$\pm$ 0.1 mA maximum
<b>Accuracy vs. Temperature Error</b>	$\pm$ 100 ppm / $^{\circ}$ C maximum

Analog Current Input Circuit



C0-02DD2-D Analog Specifications - Current Output	
<b>Outputs per Module</b>	2 (voltage/current selectable)
<b>Output Range</b>	4 - 20 mA (sink)
<b>Resolution</b>	12 bit
<b>Conversion Time</b>	1 ms
<b>Loop Supply Voltage</b>	DC 18 - 30 V
<b>Load Impedance</b>	250 $\Omega$ Load Power Supply: DC 18V: 600 $\Omega$ maximum DC 24V: 900 $\Omega$ maximum DC 30V: 1200 $\Omega$ maximum
<b>Full-Scale Calibration Error</b>	$\pm$ 1% maximum
<b>Offset Calibration Error</b>	$\pm$ 0.1 mA maximum
<b>Accuracy vs. Temperature Error</b>	$\pm$ 100 ppm / $^{\circ}$ C maximum

Analog Current Output Circuit

