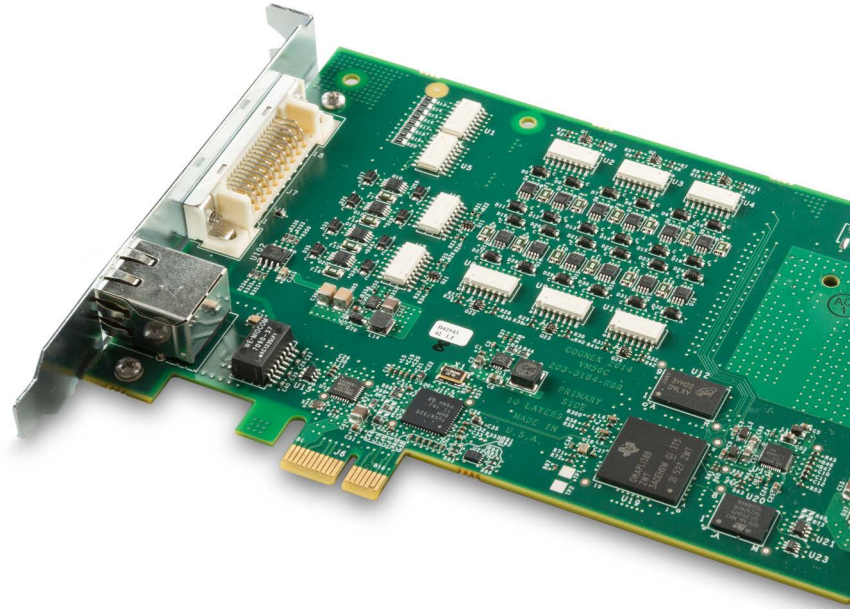


COGNEX CC24 COMMUNICATION CARD

COGNEX QUALITY

The Cognex[®] CC24 Communication Card is a PCI Express x1 card that can be installed in a standard PC, and is designed for seamless integration with industry-leading Cognex software applications. The CC24 Communication card provides:

- 24 Precision I/Os controlled by real time subsystem
- 8 inputs, optically isolated.
- 16 outputs, optically isolated.
- Support for current sinking (NPN) and current sourcing (PNP) devices up to 24V
- Encoder inputs, for connecting a single-ended or quadrature encoder.
- Factory Floor Communication Protocols:
- Ethernet/IP (EIP)
- PROFINET / Mitsubishi SLMP
- Cognex Software security.

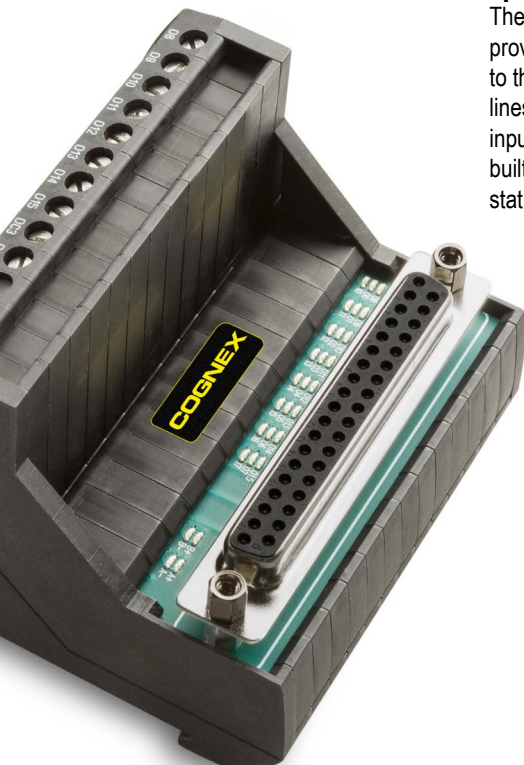


With its integrated hardware and software the CC24 Communication Card simplifies sourcing complexity, eliminates hardware compatibility issues, and provides direct connection to factory protocols and I/O.

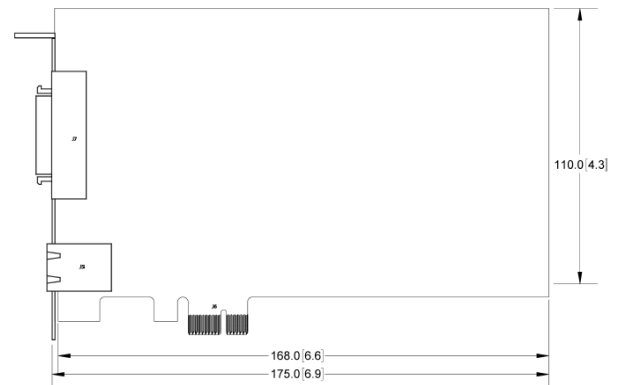
The CC24 Communication Card includes an ARM powered real-time subsystem controlling the high-speed Precision I/Os and guaranteeing latency free communication using factory floor protocols.

Optional Breakout Module

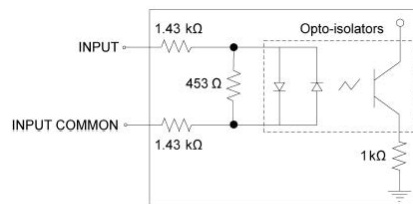
The optional breakout module provides convenient access to the 24 I/O lines, common lines and quadrature encoder inputs. The module features built-in LEDs to indicate the status of each I/O line.



Dimensions

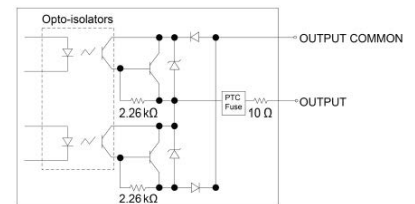


Input Schematic



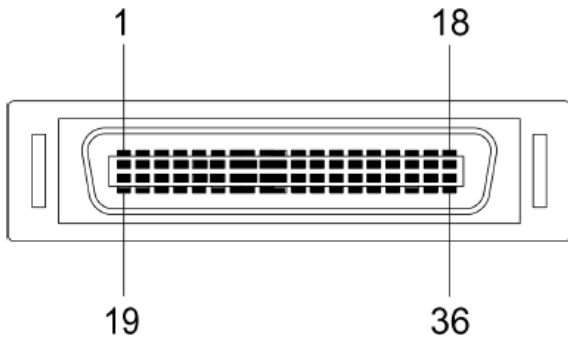
24VDC Max. across input pins - transition approx. 10VDC (Nom.)

Output Schematic



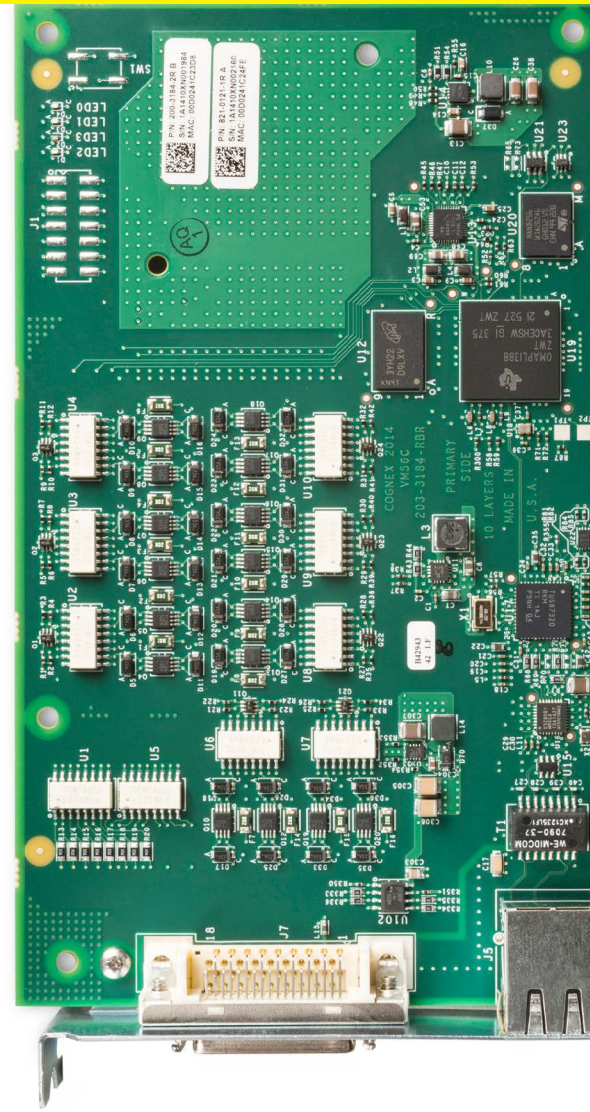
Mini Delta Ribbon Connector

The Mini Delta Ribbon (MDR) connector is a 36-pin connector that provides access to inputs, outputs and encoder lines via the Breakout cable or I/O Terminal Block cable.



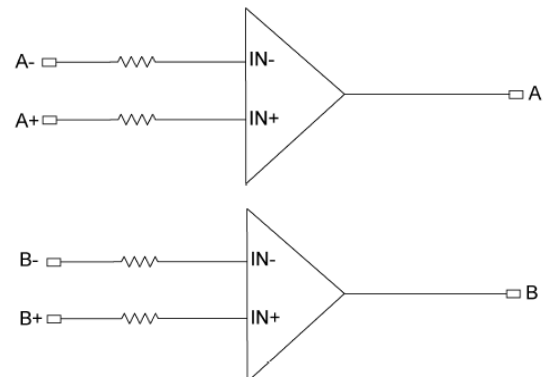
Pin #	Signal
1	Encoder A+
2	Encoder A-
3	Encoder Ground
4	Output Common 4
5	Output 15
6	Output 14
7	Output 13
8	Output 12
9	Output 11
10	Output 10
11	Output 9
12	Output 8
13	Output Common 3
14	Input Common 2
15	Input 7
16	Input 6
17	Input 5
18	Input 4

Pin #	Signal
19	Encoder B+
20	Encoder B-
21	Not used
22	Output Common 2
23	Output 7
24	Output 6
25	Output 5
26	Output 4
27	Output 3
28	Output 2
29	Output 1
30	Output 0
31	Output Common 1
32	Input Common 1
33	Input 3
34	Input 2
35	Input 1
36	Input 0



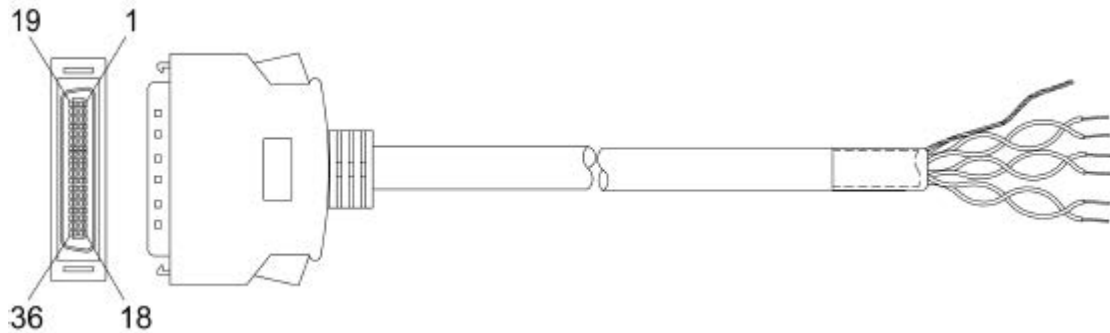
Encoder Inputs

Differential Encoder	A+/B+: 5 to 24VDC A-/B-: Inverted (A+/B+)
Single-Ended Encoder	A+/B+: 5 to 24VDC A-/B-: VDC = 1/2 (A+/B+)
Maximum Encoder Frequency	50 kHz (maximum)



Breakout Cable Specification

The unterminated Breakout cable provides access to the Communication Card's input, output and encoder lines if the Cognex Terminal Block can't be used.



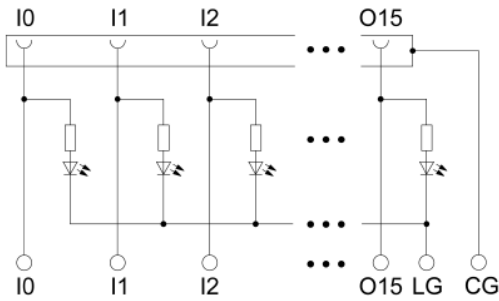
Pin #	Signal	Wire Color
1	Encoder A+	Black/Brown
2	Encoder A-	Brown/Black
3	Encoder Ground	Black/Red
4	Output Common 4	Black/White
5	Output 15	Black/Green
6	Output 14	Black/Blue
7	Output 13	Black/Orange
8	Output 12	Red/White
9	Output 11	Red/Green
10	Output 10	Red/Blue
11	Output 9	Red/Yellow
12	Output 8	Red/Brown
13	Output Common 3	Red/Orange
14	Input Common 2	Green/White
15	Input 7	Green/Blue
16	Input 6	Green/Yellow
17	Input 5	Green/Brown
18	Input 4	Green/Orange

Pin #	Signal	Wire Color
19	Encoder B+	Black/Yellow
20	Encoder B-	Yellow/Black
21	Not used	Not used
22	Output Common 2	White/Black
23	Output 7	Green/Black
24	Output 6	Blue/Black
25	Output 5	Orange/Black
26	Output 4	White/Red
27	Output 3	Green/Red
28	Output 2	Blue/Red
29	Output 1	Yellow/Red
30	Output 0	Brown/Red
31	Output Common 1	Orange/Red
32	Input Common 1	White/Green
33	Input 3	Blue/Green
34	Input 2	Yellow/Green
35	Input 1	Brown/Green
36	Input 0	Orange/Green
Shell	Shield	Bare Wire

Terminal Block Pin Assignments

The DIN rail mountable Terminal Block provides access to the Communication Card's input, output and encoder lines. Recommended wiring is 12-24 AWG, solid or stranded wire.

LED Schematics



Pin Label	Signal Name	Pin Label	Signal Name	Pin Label	Signal Name
I0	INPUT 0	O0	OUTPUT 0	O8	OUTPUT 8
I1	INPUT 1	O1	OUTPUT 1	O9	OUTPUT 9
I2	INPUT 2	O2	OUTPUT 2	O10	OUTPUT 10
I3	INPUT 3	O3	OUTPUT 3	O11	OUTPUT 11
I4	INPUT 4	O4	OUTPUT 4	O12	OUTPUT 12
I5	INPUT 5	O5	OUTPUT 5	O13	OUTPUT 13
I6	INPUT 6	O6	OUTPUT 6	O14	OUTPUT 14
I7	INPUT 7	O7	OUTPUT 7	O15	OUTPUT 15
IC1	INPUT COMMON 1	OC1	OUTPUT COMMON 1	OC3	OUTPUT COMMON 3
IC2	INPUT COMMON 2	OC2	OUTPUT COMMON 2	OC4	OUTPUT COMMON 4
B-	ENCODER B-	B+	ENCODER B+	N/A	UNUSED
A-	ENCODER A-	A+	ENCODER A+	N/A	UNUSED
GND	ENCODER GROUND	CG	CHASSIS GROUND	LG	LED GROUND

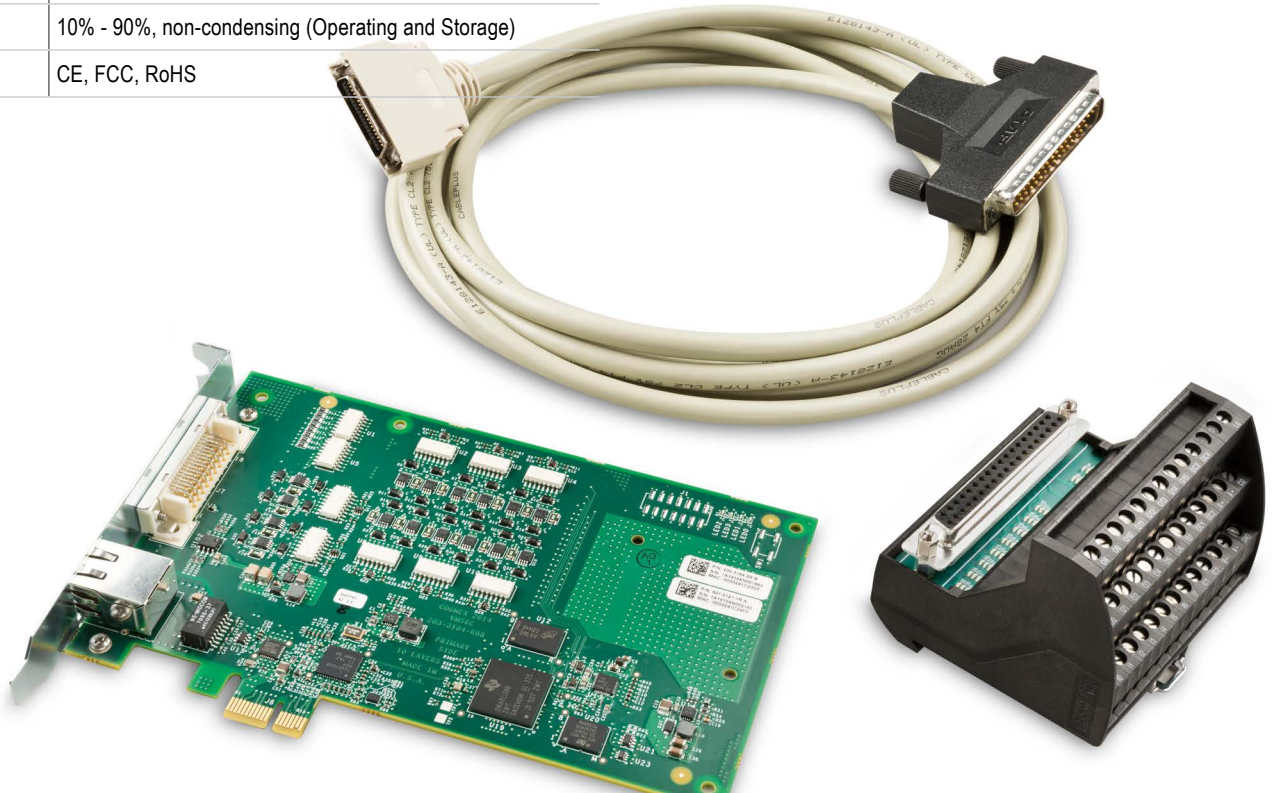


Specifications

Bus Interface	PCI Express, x1 Gen2
Bus Interface Options	Any PCIe slot.
Inputs	8 optically isolated discrete inputs.
Outputs	16 optically isolated discrete outputs.
Encoder Inputs	4 non-isolated encoder inputs.
I-ENET Port	1 RJ-45 Ethernet port, 10/100 BaseT with auto MDIX. IEEE 802.3 TCP/IP Protocol. Dedicated port for Ethernet-based industrial protocol communications.
Dimensions	168.0 mm (6.6 in) x 110.0 mm (4.3 in)
Power Requirements	170 mA from PCIe bus +3.3VDC 240 mA from PCIe bus +12VDC
Power Consumption	3.5 W (maximum)
Power Dissipation ¹	9 W (maximum)
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-40°C to 65°C (-40°F to 65°F)
Humidity	10% - 90%, non-condensing (Operating and Storage)
Regulatory Compliance	CE, FCC, RoHS

Ordering Information

Product ID	Description
CIO-CC24-200	CC24 Communication Card with Cognex Designer™ and VisionPro® license
CBL-CC24-00	Cable CC24 Communication Card to flying leads, 5 m
CBL-CC24-20	Cable CC24 Communication Card to Terminal Block, 3 m
COG-CC24-MOD	CC24 Communication Card Terminal Block



COGNEX

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