842E-CM Integrated Motion on EtherNet/IP™ Encoder

Building a better machine on a single network

The 842E-CM Encoder from Rockwell Automation builds on Integrated Architecture Midrange system to deliver the right sized machine control on EtherNet/IP.

Features

- EtherNet/IP Interface with IEEE 1588
- High resolution – single and multi-turn options
- Support of various ethernet topologies (linear, ring, or star)
- Easy IP addressing
- IP67 protection class
- Simple to connect
- Solid and hollow shaft

Premier Integration

- Feedback only CIP Axis in Studio 5000 Logix Designer Software
- Supports Logix motion instruction set
- Premier integration with Logix controllers

One standard network, EtherNet/IP for all of your machine needs

Ethernet Port 1   Ethernet Port 2

Solid Shaft   Hollow Shaft

To continue to drive machine scalability, Rockwell Automation developed the Integrated Motion on EtherNet/IP Encoder as part of the Midrange System with its CompactLogix 5370 controllers.

The size of a machine's footprint is becoming very important today. With the introduction of the the Kinetix 5500, Rockwell Automation has greatly reduced the footprint required for the control panel. By utilizing a single network, the 842E-CM contributes to this footprint reduction by placing aux feedback requirements out of the panel and right on the machine.
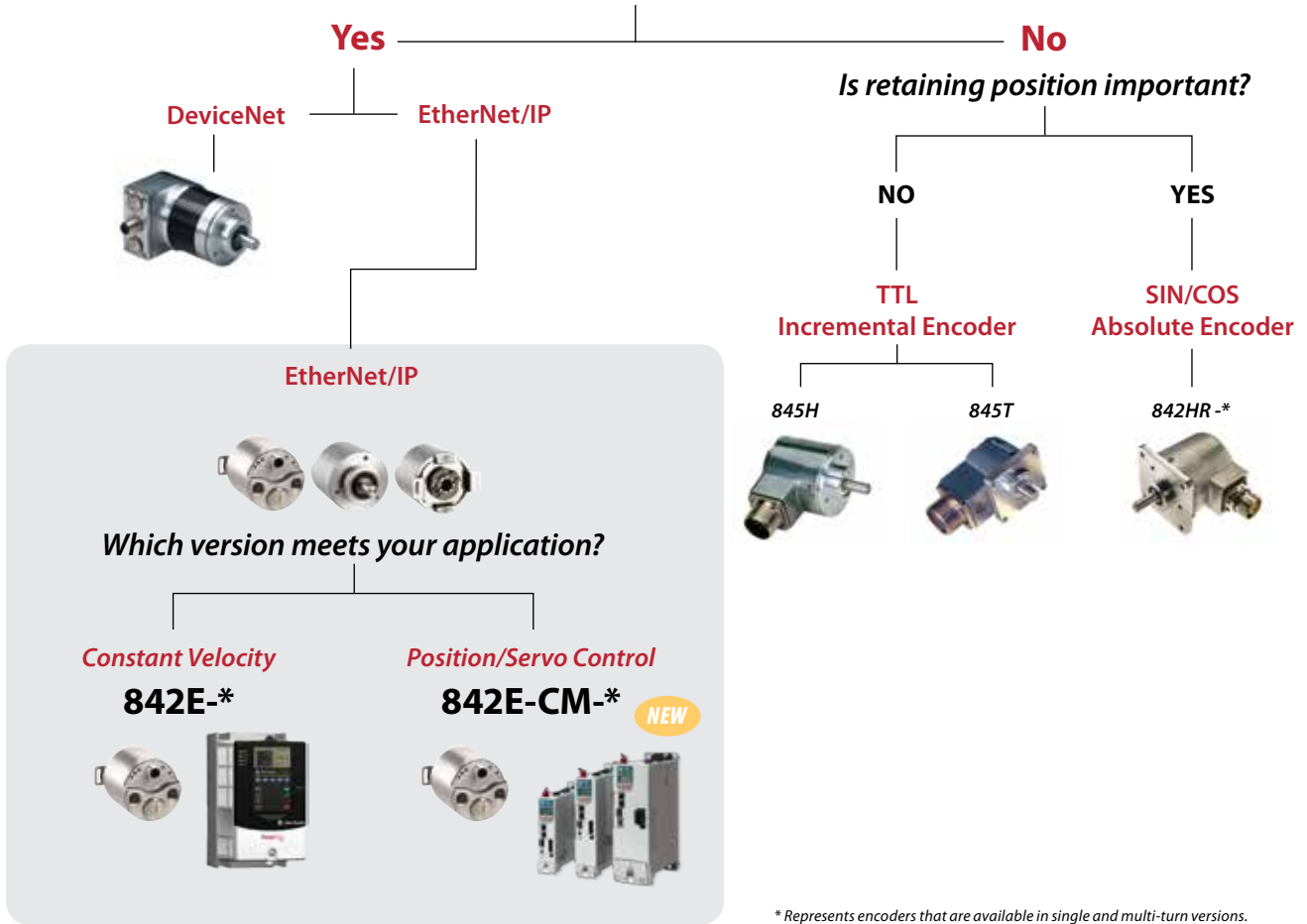
The Allen-Bradley 842E-CM encoder is a creative solution for these applications that complements the new Kinetix 5500 architecture. By providing auxiliary feedback directly through the EtherNet/IP network, the 842E-CM eliminates the need for point-to-point wiring while allowing customers to use the encoder in a variety of network topologies. What also makes this product truly unique is that it takes advantage of CIP Sync and CIP Motion Technology, a time synchronization extension for the Common Industrial Protocol (fully compliant with IEEE-1588). Using CIP Sync and CIP Motion Technology, the encoder provides a timestamp associated with all data delivered to and from the controller to allow it and the entire system to be synchronized with the master clock reference on sub-microsecond levels.

Thanks to Premier Integration between the 842E-CM and Allen-Bradley Logix controllers provides a seamless user experience. A user can add and configure the encoder into their Studio 5000 Logix Designer (formerly RSLogix5000®) software project thereby allowing it to function as a feedback-only CIP axis in the Logix controller.
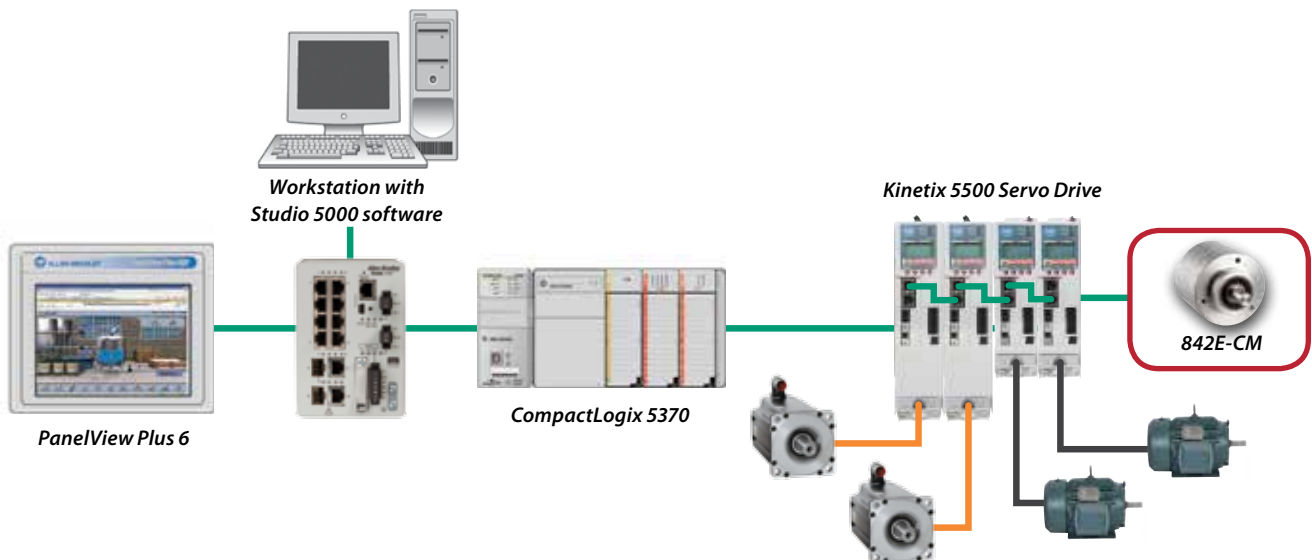
LISTEN. THINK. SOLVE.®

Allen-Bradley • Rockwell Software

Rockwell Automation

Allen-Bradley Encoder Portfolio
Do you need networking capabilities?

Yes ─────────────────── **No**

Is retaining position important?

DeviceNet   **EtherNet/IP**

NO   **YES**

EtherNet/IP

TTL   **SIN/COS**
Incremental Encoder   **Absolute Encoder**

845H   *845T*   *842HR -**

Which version meets your application?

Constant Velocity   *Position/Servo Control*

842E-*   **842E-CM-***   *NEW*

* Represents encoders that are available in single and multi-turn versions.

Integrated Motion on EtherNet/IP

EtherNet/IP uses CIP Sync and CIP Motion technologies to provide real-time, closed loop motion on standard ethernet. This topology-independent network provides a simplified integration of the entire control solution on one network, including HMI, PAC, IO, and Motion Control.

Workstation with Studio 5000 software

Kinetix 5500 Servo Drive

842E-CM

PanelView Plus 6

CompactLogix 5370

Product Selection

842E-CM – <u>S</u> <u>IP</u> <u>10</u> <u>B</u> <u>A</u>
        a   *b*   *c*   *d*

a

Number of Turns	
Code	Description
S	Single-turn (1 turn)
M	Multi-turn (4096 turns)

b

Mechanical Interface	
Code	Description
1	Solid shaft 3/8 in.
2	Solid shaft 3/8 in. with flat
3	Solid shaft 10 mm
4	Solid shaft 10 mm with flat
5	Hollow shaft 1/4 in.
6	Hollow shaft 8 mm
7	Hollow shaft 3/8 in.
8	Hollow shaft 10 mm
9	Hollow shaft 12 mm
10	Hollow shaft 1/2 in.
11	Hollow shaft 14 mm
12	Hollow shaft 15 mm

c

Connector	
Code	Description
B	M12 connector

d

Resolution	
Code	Description
A	262,144 (18 bit) steps per revolution

LED Status

Suggested Mating Cables

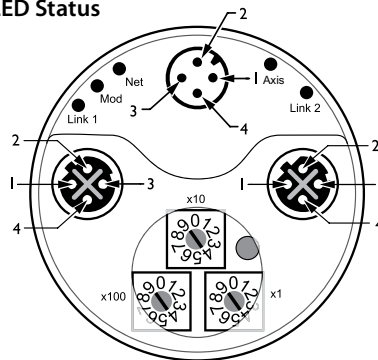| Ethernet	Cat. No.
M12 D-code patchord, male/male, 2 m	1585D-M4TBDM-2
M12 to RJ45 patchcord, male/male, 2 m	1585D-M4TBJM-2
M12 D-code patchcord, male/male (shielded), 2 m	1585D-M4UBDM-2
M12 to RJ45 patchcord (shielded), male/male, 2 m	1585D-M4UBJM-2
Power	Cat. No.
DC micro Cordset (flying leads), 4-pin, 2 m	889D-F4AC-2

Pinout & Color Code

EtherNet/IP Pinout

Pin	Signal Name	Color Code	Pair Assignment
1	TXD+	White Orange	Pair 1
2	TXD-	Orange	
3	RXD+	White Green	Pair 2
4	RXD-	Green	

Power Supply Pinout
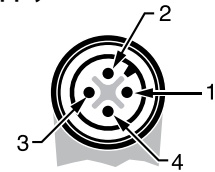
Warning: Do not use pins 2 and 4

Pin	Signal	Color Code	Pair Assignment
1	V_S	Brown	Supply voltage 10…32V DC
2	—	White	*Do not use*
3	GND	Blue	0V DC (ground)
4	—	Black	*Do not use*

www.rockwellautomation.com