

InView Message Displays

This Technical Note covers the following Catalog Numbers:

2706-P22R, 2706-P92C, 2706-P94C, 2706-P42R, 2706-P42C, 2706-P44R, 2706-P44C, 2706-P72CN1, 2706-P72CN2, 2706-P74CN1, and 2706-P74CN2.

InView message displays are panel-mount and large-format displays for visually communicating information across the factory floor. Whether it's process alarming, safety messages, inventory or process data, or thanking the team, InView displays can deliver the information to the right place when needed. Choose from eleven different models offering varying display lines, character sizes, message colors, font types, and messaging effects.

You can integrate the message displays into an existing industrial or commercial networks using communication modules and preferred Rockwell Automation controllers, third party controllers, or computer-based systems.

Environmental Displays

Table 1. Environmental Specifications-InView Displays

Attribute	2706-P22R, 2706-P92C, 2706-P94C, 2706-P42R, 2706-P42C, 2706-P44R, 2706-P44C, 2706-P72CN1, 2706-P72CN2, 2706-P74CN1, 2706-P74CN2
Temperature, operating	0...50 °C (32...122 °F) 2706-P22R: 0...55 °C (32...131 °F)
Temperature, storage	-25...70 °C (-13...158 °F)
Relative humidity	5...95% noncondensing
Vibration	2706-P22R: 2 g
Shock, operating	2706-P22R: 15 g
Shock, nonoperating	2706-P22R: 30 g
Enclosure ratings: 2706-P22R 2706-P42R, 2706-P42C, 2706-P44R, 2706-P44C 2706-P72CN1(1), 2706-P72CN2 2706-P74CN1(1), 2706-P74CN2 - P92C, 2706-P94C	NEMA Type 4 (indoor only) NEMA Type 12 NEMA Type 4, 4X (indoor only) NEMA Type 12, 13

(1) The cat. no. 2706-P72CN1 and 2706-P74CN1 displays have stainless steel enclosures. The NEMA Type 4X rating applies only to these enclosures.

Certifications

Tables 2 and 3 list the certifications for the InView Message Displays.

Table 2. Environmental Specifications - InView Message Displays

Certification(1)	2706-P22R, 2706-P92C
c-UL-us	UL Listed Industrial Control Equipment, certified for US and Canada: - UL listed for UL508-Industrial Control Products. - UL listed for UL1604-Hazardous Environments Class 1, Division 2, Groups A, B, C, and D; Class II, Division 2, Groups F and G; and Class III, Division 2. - UL Listed for Canadian Safety Standards CSA 22.2 No. 14, No. 213 and C22.2 No. 142.
CE	European Union 89/336/EEC EMC Directive, compliant with: - EN 61000-6-2; Industrial Immunity. - EN 50081-2; Industrial Emissions. - IEC 1131-2; Programmable Controllers - Equipment Class 1.
C-Tick	Australian Radiocommunications Act, compliant with: AS/NZS 2064 - Group 1, Class 1.

(1) When marked. See the Product Certification link at <http://www.ab.com> for Declarations of Conformity, Certificates, and other certification details.

Table 3. Certifications - InView Message Displays, Cat. Nos. 2706-P94x, 2706-P44x, 2706-P72x, 2706-P74x

Certification(1)	2706-P94C, 2706-P42R, 2706-P42C, 2706-P44R, 2706-P44C, 2706-P72CN1, 2706-P72CN2, 2706-P74CN1, 2706-P74CN2
ETL	Approved.
CE	European Union 89/336/EEC EMC Directive, compliant with: - EN 61000-6-2; Industrial Immunity. - EN 61000-6-4; Industrial Emissions. - EN 61131-2; Programmable Controllers.

(1) When marked. See the Product Certification link at <http://www.ab.com> for Declarations of Conformity, Certificates, and other certification details.

Technical Specifications

Table 4 lists the technical specifications for the InView Message Displays.

Table 4. Technical Specifications - InView Message Displays

Message Display Attribute	2706-P22R	2706-P42R, 2706-P42C(1) 2706-P44R, 2706-P44C(2)	2706-P72CN1, 2706-P72CN2(1) 2706-P74CN1, 2706-P74CN2(2)	2706-P92C (1) 2706-P94C(2)
Viewing distance	7.6 m (25 ft)	60 m (200 ft)	100 m (350 ft)	137 m (450 ft)
Display Type	Red LED matrix	Red LED matrix or Tricolor LED matrix	Tricolor LED matrix	Tricolor LED matrix
Display area (W x H)	30 x 5 cm (12 x 2 in)	2706-P42R, 2706-P42C 91.4 x 12.2 cm (36 x 4.8 in) (1) 2706-P44R, 2706-P44C 183 x 12.2 cm (72 x 4.8 in) (2)	2706-P42R, 2706-P42C 91.4 x 18.3 cm (36 x 7.2 in) (1) 2706-P44R, 2706-P44C 152.4 x 18.3 cm (60 x 7.2 in) (2)	2706-P42R, 2706-P42C 91.4 x 24.4 cm (36 x 9.6 in) (1) 2706-P44R, 2706-P44C 183 x 24.4 cm (72 x 9.6 in) (2)
Pixel array	120 x 70	120 x 16 or 240 x 16	120 x 24 or 200 x 24	120 x 32 or 240 x 32
Pixel spacing (center-to-center)	2.54 mm (0.1 in)	7.62 mm (0.3 in)	7.62 mm (0.3 in)	7.62 mm (0.3 in)
Number of lines	2	1 or 2	1,,,4	1,,,5
Characters per line	20	2706-P42R, 2706-P42C 1 line: 12 (1) 2 line: 20 (1) 2706-P44R, 2706-P44C 1 line: 24 (2) 2 line: 40 (2)	2706-P72CN1, 2706-P72CN2 1 line: 12 (1) 2 line: 20 (1) 3 line: 20 (1) 4 line: 24 (1) 2706-P74CN1, 2706-P74CN2 1 line: 20 (2) 3 line: 33 (2) 3 line: 33 (2) 4 line: 40 (2)	2706-P92C 1line: 13 (1) 2 line: 13 (1) 3 line: 13 (1) 4 line: 20 (1) 5 line: 24 (1) 2706-P94C 1 line: 26 (2) 2 line: 26 (2) 3 line: 26 (2) 4 line: 40 (2) 5 line: 48 (2)
Character size	1.8 cm (0.7 in)	1 line: 12.2 cm (4.8 in) 2 line: 5.3 cm (2.1 in)	1 line: 18.3 cm (7.2 in) 2 line: 7.6 cm (3.0 in) 3 line: 5.3 cm (2.1 in) 4 line: 3.8 cm (1.5 in)	1 line: 24.4 cm (9.6 in) 2 line: 11.4 cm (4.5 in) 3 line: 7.6 cm (3.0 in) 4 line: 5.3 cm (2.1 in) 5 line: 3.8 cm (1.5 in)
Character set	Standard and Extended ASCII			Standard and extended ASCII User-defined graphic characters
Software	Cat. no. 2706-PSW1 PC-based, InView Messaging software			
Communication ports	RS-232 serial port supports point-to-point communication from a single controller to a single InView display within a distance of 50 ft. RS-485 serial port supports multidrop communication from a single controller to multiple InView displays using an AIC+ module.			

Message Display Attribute	2706-P22R	2706-P42R, 2706-P42C(1) 2706-P44R, 2706-P44C(2)	2706-P72CN1, 2706-P72CN2(1) 2706-P74CN1, 2706-P74CN2(2)	2706-P92C (1) 2706-P94C(2)
Input Voltage, DC	18...30 VDC, 0.5 A at 18 VDC	–	–	–
Input Voltage, AC	–	100...240 VAC, 50...60 Hz		
Weight, approx.	0.85 kg (1.87 lb.)	2706-P42R, 2706-P42C 12.7 kg (28 lb.) 2706-P44R, 2706-P44C 22.7 kg (50 lb.)	2706-P72CN1, 2706-P72CN2 27.2 kg (60 lb.) 2706-P74CN1, 2706-P74CN2 36.3 kg (80 lb.)	2706-P92C 32 kg (70 lb.) 2706-P94C 64 kg (140 lb.)
Dimensions, approx., (H x W x D)	6 x 36 x 11 cm (2.41 x 14.40 x 4.38 in.)	2706-P42R, 2706-P42C 14 x 103 x 20 cm (5.50 x 40.38 x 7.88 in.) (1) 2706-P44R, 2706-P44C 14 x 194 x 20 cm (5.50 x 76.38 x 7.88 in.) (2)	2706-P72CN1, 2706-P72CN2 15 x 107 x 35 cm (6.0 x 42.25 x 13.75 in.) (1) 2706-P74CN1, 2706-P74CN2 15 x 168 x 35 cm (6.0 x 66.25 x 13.75 in.) (2)	2706-P92C 40 x 105 x 13 cm (15.90 x 41.19 x 5.25 in.) (1) 2706-P94C 40 x 196 x 13 cm (15.90 x 77.20 x 5.25 in.) (2)
Optional Communication modules				
Communication type	Remote I/O, DH-485, DH+, DeviceNet, ControlNet, Ethernet			
Mounting method	DIN rail	Back-mounted on display	Inside display	Inside display
Power source	External 24 VDC	From display	From display	From display
Series	A, or later	C, or later	C, or later	C, or later

(1) Display is available in short format 91.44 cm (3 ft).

(2) Display is available in long format 182.88 cm (6 ft enclosure).

Product Selection

Table 5 lists the catalog numbers for the InView Message displays.

Table 5. InView Message Display Catalog Numbers

Cat. No	Display LEDs		Viewing Distance	No. of Lines	Characters Per Line		NEMA Type	Power
	Red	Tri-Color			Number	Height in. (cm)		
2706-P22R	•		7.6 m (25 ft)	2	20	0.7 (1.8)	4(1)	DC
2706-P42R	•		60 m (200 ft)	1 or 2	12 or 20	4.8 or 2.1 (12.2 or 5.3)	12	AC
2706-P42C		•		1 or 2	12 or 20	4.8 or 2.1 (12.2 or 5.3)	12	AC
2706-P44R	•			1 or 2	24 or 40	4.8 or 2.1 (12.2 or 5.3)	12	AC
2706-P44C		•		1 or 2	24 or 40	4.8 or 2.1 (12.2 or 5.3)	12	AC
2706-P72CN2		•	100 m (350 ft)	1...4	12...24	7.2...1.5 (18.3...3.8)	4	AC
2706-P72CN1		•		1...4	12...24	7.2...1.5 (18.3...3.8)	4X(2)	AC
2706-P74CN2		•		1...4	20...40	7.2...1.5 (18.3...3.8)	4	AC
2706-P74CN1		•		1...4	20...40	7.2...1.5 (18.3...3.8)	4X(2)	AC
2706-P92C		•	137 m (450 ft)	1...5	13...24	9.6...1.5 (24.4...3.8)	12, 13	AC
2706-P94C		•		1...5	26...48	9.6...1.5 (24.4...3.8)	12, 13	AC

(1) NEMA Type rating applies when display is panel-mounted.

(2) Has stainless steel enclosure.

Communication Modules

InView message displays come standard with RS-232 and RS-485 communication ports. For applications requiring industrial or commercial networks, InView communication modules can be used to integrate your display into new and existing networks.

Table 6. InView Display Communication Modules

Cat. No.)	Communication	For Message Display	Mounting Method
2706-PENETP	EtherNet/IP	2706-P22R, 24 VDC	DIN rail
2706-PENETM		2706-P4x	Back of display
2706-PENETK		2706-P7x 2706-P9x	Inside display
2706-PENET1(1) (2)	Ethernet TCP/IP	2706-P4x	Back of display
		2706-P7x	Panel mounted
2706-PDNETP	DeviceNet	2706-P22R	DIN rail(3)
2706-PDNETM		2706-P4x	Back of display
2706-PDNETK		2706-P7x 2706-P9x	Inside display
2706-PCNETP	ControlNet	2706-P22R	DIN rail(3)
2706-PCNETM		2706-P4x	Back of display
2706-PCNETK		2706-P7x 2706-P9x	Inside display
2706-PDH485P	DH-485	2706-P22R	DIN rail(3)
2706-PDH485M		2706-P4x	Back of display
2706-PDH485K		2706-P7x 2706-P9x	Inside display
2706-PDHPP	DH+	2706-P22R	DIN rail(3)
2706-PDHPM		2706-P4x	Back of display
2706-PDHPK		2706-P7x 2706-P9x	Inside display
2706-PRIOP	Remote I/O	2706-P22R	DIN rail(3)
2706-PRIOM		2706-P4x	Back of display
2706-PRIOK		2706-P7x 2706-P9x	Inside display

(1) Rockwell Automation recommends using a third-party, DIN-rail mounted, Ethernet TCP/IP solution with the cat. no. 2706-P22R panel mount display. Lantronix and Digi both supply a DIN-rail Ethernet TCP/IP solution for connecting to a personal computer.

(2) The cat. no. 2706-P9x displays come standard with Ethernet TCP/IP, RS-232, and RS-485 communication.

(3) DIN-rail mounted modules operate on 24 VDC power.

Table 7. Environmental Specifications - InView Display Communication Modules

Attribute	2706-PxxxxP, 2706-PxxxxM, 2706-PxxxxK
Temperature, operating	-0...55 °C (32...131 °F)
Temperature, storage	-25...70 °C (-13...158 °F)
Relative humidity	5...95% noncondensing
Shock, operating	15 g
Shock, nonoperating	30 g
Vibration - channel mount	10 Hz<f<57 Hz 0.012 in. p-p displacement 57 Hz<f 500 Hz 1.0 g
Vibration - DIN-rail mount	10 Hz<f<57 Hz 0.012 in. p-p displacement 57 Hz<f 500 Hz 2.0 g

Accessories

The tables describe the adapter plate and interface modules used by the InView message displays.

Table 8. Enclosure

Cat. No.	Description
2706-NE1	NEMA Type 12/13 enclosure for 2706-P22R message display.

Table 9. Adapter Plate

2706-PNR2	Adapter plate for installing a cat. no. 2706-P22R message display in a legacy DL-40 panel cutout.
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Table 10. Interface Modules

Cat. No.	Description
1747-PIC	Personal computer interface converter converts RS-232 signals to/from DH-485 signals
1747-AIC	Isolated link coupler for DH-485 network
1761-NET-AIC	MicroLogix advanced interface converter module

InView Messaging Software

Develop messages on a computer by using the InView Messaging software, catalog number 2706-PSW1, an intuitive Microsoft Windows software package with WYSIWYG functionality. By using this simple configuration environment, you can quickly set up your communication network and create messages with varying attributes:

- Message colors.
- Font size and format.
- Embedded process variables.
- Message attributes.

Table 11. InView Messaging Software

Cat. No.	Description
2706-PSW1	InView Messaging software with ActiveX controls

Cables

The table summarizes cables used by the InView Message displays.

Table 12. Cables

Cat. No.	Description	Length
2706-PCABLE1	InView message display program and download cable	–
1747-C10	DH-485 operating/programming cable	1.8 m (6 ft)
1747-C11	DH-485 operating/programming cable	0.3 m (1 ft)
1747-C20	DH-485 operating/programming cable	6 m (20 ft)
2711-NC13	RS-232 operating/programming cable, 9-pin D Shell to 9-pin D Shell	5 m (16.4 ft)
2711-NC14	RS-232 operating/programming cable, 9-pin D Shell to 9-pin D Shell	10 m (32.7 ft)
2711-NC21	RS-232 operating cable, 9-pin D Shell to 8-pin Mini DIN	5 m (16.4 ft)
2711-NC22	RS-232 operating cable, 9-pin D Shell to 8-pin Mini DIN	15 m (49 ft)
2706-NC13	RS-232 operating/programming cable, 9-pin D Shell to 9-pin D Shell	3 m (10 ft)

Runtime Communication Cables

Table 13. Runtime Communication Cables: InView Message Displays to SLC Controllers

Protocol	InView Display Port or Comm Module Port	SLC-500, 5/01, 5/02 CH1 RJ45 (DH-485)	SLC-5/03, 5/04, 5/05 CH0 (9-pin RS-232) (DH-485)	SLC 5/03 CH1 (RJ45) (DH-485)	SLC 5/04 CH1 (DH+)	SLC 5/05 CH1 (ENET)
RS-232 serial point-to-point (any)	RS-232 port InView Display	—	—	—	—	—
RS-485 serial multidrop (any)	RS-485 port (terminal block) InView Display	—	Use AIC+ module (1761-NET-AIC) Connect to port 3 Daisy chain to other InView displays	—	—	—
DH-485	DH-485 (RJ45) port Communication module 2706-PDH485x	1747-C10 (2 m/6 ft) 1747-C20 (6 m/20 ft)	Use AIC+ module (1761-NET-AIC) Connect to port 3	1747-C10 (2 m/6 ft) 1747-C20 (6 m/20 ft)	—	—
DeviceNet	DeviceNet port Communication module 2706-PDNETx	To SLC 5/02 with 1747-SDN and DeviceNet cable	Use 1747-SDN module and DeviceNet cable	Use 1747-SDN module and DeviceNet cable	Use 1747-SDN module and DeviceNet cable	Use 1747-SDN module and DeviceNet cable
ControlNet	ControlNet port Communication module 2706-PCNETx	—	InView Message Displays do not support SLC ControlNet configurations.			
EtherNet/IP	EtherNet/IP port Communication module 2706-PENETx	—	—	—	—	1585J-M type cable or 2711P- CBL-EX04 (4 m/14 ft) (1)
Remote I/O	Remote I/O port Communication module 2706-PRIOx	SLC 5/02 only Use 1747-SN with shielded twinaxial cable (1770-CD)	Use 1747-SN scanner with shielded twinaxial cable (1770-CD)			
DH+	Remote I/O port Communication module 2706-PDHPx	—	—	—	Shielded twinaxial cable (1770-CD)	—

(1) A direct connection from an InView EtherNet/IP communication module to an SLC 5/05 requires an Ethernet switch or the 2711P-CBL-EX04 crossover cable.

Table 14. Runtime Communication Cables: InView Message Displays to PLC and Logix Controllers

Protocol	InView Display Port or Comm Module Port	PLC-5, PLC-5C, PLC-5E CH0 (25-pin RS-232) (DF1)	ControlLogix CH0 (9-pin RS-232) (DF1)	CompactLogix CH0 (9-pin RS-232) (DF1 or DH-485)
RS-232 serial point-to-point (any)	RS-232 port InView Display	2711-NC13 (5 m/16 ft) 2711-NC14 (10 m/32 ft) Use 9-pin to 25-pin adapter	2711-NC13 (5 m/16 ft) 2711-NC14 (10 m/32 ft)	2711-NC13 (5 m/16 ft) 2711-NC14 (10 m/32 ft)
RS-485 serial multidrop (any)	RS-485 port (terminal block) InView Display	Use AIC+ module (1761-NET-AIC) Connect to port 3 Daisy chain to other InView displays	Use AIC+ module (1761-NET-AIC) Connect to port 3 Daisy chain to other InView displays	Use AIC+ module (1761-NET-AIC) Connect to port 3
DH-485	DH-485 (RJ45) port Communication module 2706-PDH485x	—	—	Use AIC+ module (1761-NET-AIC) Connect to port 3
DeviceNet	DeviceNet port Communication module 2706-PDNETx	Use 1771-SDN module and DeviceNet cable	Use 1756-DNB Module with DeviceNet cable	Use 1761-NET-DNI module and DeviceNet cable
ControlNet	ControlNet port Communication module 2706-PCNETx	To PLC-5C with ControlNet cable	Use 1756-CNB Module with ControlNet cable	—
EtherNet/IP	EtherNet/IP port Communication module 2706-PENETx	To PLC-5/E with 1585J-M type cable or 2711P- CBL-EX04 (4 m/14 ft)(1)	Use 1756-ENET module with 1585J-M type cable or 2711P- CBL-EX04 (4 m/14 ft)(1)	Use 1761-NET-ENI module and EtherNet cable
Remote I/O	Remote I/O port Communication module 2706-PRIOx	Shielded twinaxial cable (1770-CD)	Use 1756-DHRIO module With shielded twinaxial cable (1770-CD)	—
DH+	Remote I/O port Communication module 2706-PDHPx	Shielded twinaxial cable (1770-CD)	Use 1756-DHRIO module with shielded twinaxial cable (1770- CD)	—

(1) The AIC+ module is recommended for isolation purposes when the InView display and controller are not on same power supply.

Table 15. Runtime Communication Cables: InView Message Displays to MicroLogix Controllers

Protocol	InView Display Port or Comm Module Port	MicroLogix 1000, 1100, 1200, 1400, 1500LSP CH0 (8-pin Mini DIN) (DF1 or DH-485)	MicroLogix 1400, 1500LRP CH1/CH2 (9-pin RS-232) (DF1 or DH-485)	MicroLogix 1100, 1400 Ethernet
RS-232 serial point-to-point (any)	RS-232 port InView Display	1747-NC21 (5 m/16 ft) 1747-NC22 (15 m/49 ft) Null modem required (1)	2711-NC13 (5 m/16 ft) 2711-NC14 (10 m/32 ft)	—
RS-485 serial multidrop (any)	RS-485 port (terminal block) InView Display	Use AIC+ module (1761-NET-AIC) Connect to port 3 Daisy chain to other InView displays	Use AIC+ module (1761-NET-AIC) Connect to port 3	—
DH-485	DH-485 (RJ45) port Communication module 2706-PDH485x	Use AIC+ module (1761-NET-AIC) Connect to port 3	Use AIC+ module (1761-NET-AIC) Connect to port 3	—
DeviceNet	DeviceNet port Communication module 2706-PDNETx	Use 1761-NET-DNI module and DeviceNet cable	Use 1761-NET-DNI module and DeviceNet cable	—
ControlNet	ControlNet port Communication module 2706-PCNETx	—	—	—
EtherNet/IP	EtherNet/IP port Communication module 2706-PENETx	Use 1761-NET-ENI module and EtherNet cable	Use 1761-NET-ENI module and EtherNet cable	1585J-M Type Cable or 2711P- CBL-EX04 (4 m/14 ft) (2)
Remote I/O	Remote I/O port Communication module 2706-PRIOx	—	—	—
DH+	Remote I/O port Communication module 2706-PDHPx	—	—	—

(1) The AIC+ module is recommended for isolation purposes when the InView display and controller are not on same power supply.

(2) A direct connection from an InView EtherNet/IP communication module to an SLC 5/05 requires an Ethernet switch or the 2711P-CBL-EX04 crossover cable.

Table 16. Runtime Communications Cables: InView Message Displays to Interface Modules

Protocol	InView Display Port or Comm Module Port	1747-AIC	1761-NET-AIC			
			Port 1 (9-pin)	Port 2 (8-pin Mini DIN)	Port 3 (DH-485)	1761-NETDNI 1771-NET-ENI
RS-485 serial multidrop (any)	RS-485 port (terminal block) InView Display	—	—	—	—	—
DH-485	DH-485 (RJ45) port Communication module 2706-PDH485x	1747-C10 (2 m/6ft) 1747-C20 (6 m/20 ft)	—	—	1761-CBL-AS03 (3 m/10 ft) 1761-CBL-AS09 (9 m/30 ft)	—

Additional Resources

These documents contain additional information concerning related Rockwell Automation products.

Resource	Description
2706-94x and 2706-97x Message Display Installation Instructions, publication 2706-IN006	Provides instructions on how to change the serial address and install the 2706-94x and 2706-97x InView message displays in NEMA enclosures
2706-P92C and 2706-P94C Message Display Installation Instructions, publication 2706-IN016	Provides instructions on how to mount, connect, and set the switch settings on the 2706-P2Cx and 2706-P4Cx InView message displays.
InView Marquee Message Display Quick Start, publication 2706-QS001	Provides instructions on to configure and download messages to an InView displays and configure the display for Ethernet communication.
InView Marquee Message Display User Manual, publication 2706-UM016	Provides instructions in how to install, configure, and set up serial communication for the InView displays.
InView Communication Module Installation Instructions, publication 2706-IN015	Provides information on how to connect communication modules to the InView displays.
InView Communication Module User Manual, publication 2706-UM017	Provides information on how to wire, configure, and troubleshoot the InView communication modules.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, http://www.ab.com	Provides declarations of conformity, certificates, and other certification details.

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