



PACSystems™
HMI and Operator Interfaces

Machine Automation Solutions
v06182020

HMIs and Operator Interfaces



Consumer-grade usability with industrial-level durability to provide faster, clearer access to data.

Key Portfolio Benefits

- Full portfolio covering wide range of applications
- Advanced features and performance
- Modular for easy serviceability
- Display technology designed to maximize user experience

Core Innovation



Panel PC



Web Panel



Industrial Monitor



Automation Panel

RXi Industrial Displays

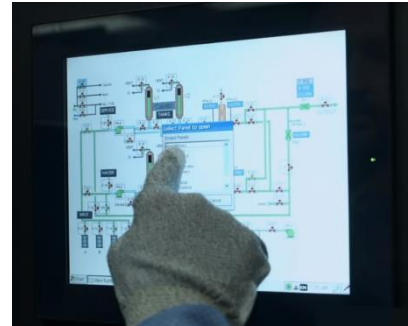
QuickPanel+™

QuickPanel+

QuickPanel+™: Versatile Automation Panel

All-in-One Automation Panel

- Easily configured as an automation controller
- Powerful scripting capabilities and built-in HMI functions
- Built-in data historian collector



Enhanced UX

- Intuitive, gesture-enabled multi-touch
- Allows for more intuitive HMI design

Remote Connectivity

- Remote interaction and monitoring
- Web reports with SNMP, HTML5 dashboards, VNC
- Alarm and event server



Security Without IT Headaches

- Remote diagnostics and security without VPN setup
- No public IP address (Secomea)
- One login for easy maintenance across assets

Configured by PAC Machine Edition (PME)

QuickPanel+™: Third-Party Compatibility

Ethernet

- Allen-Bradley ControlLogix
- Allen-Bradley Ethernet
- AutomationDirect EBC
- AutomationDirect ECOM
- GE Ethernet
- GE Ethernet Global Data
- Honeywell HC Ethernet
- Mitsubishi Ethernet
- Mitsubishi FX Net
- Modbus Ethernet
- Omron FINS Ethernet
- Omron Host Link
- Omron Process Suite
- Siemens TCP/IP Ethernet
- Siemens TCP/IP Unsolicited
- Simatic 505 Ethernet
- SIXNET EtherTRAK I/O
- Telemecanique Uni-Telway
- UCON-User Configured Driver
- Yaskawa MP Ethernet
- Yokogawa DX Ethernet

Serial

- Allen-Bradley DF1
- Allen-Bradley DH485
- AutomationDirect DirectNet
- Cutler-Hammer D50/300
- GE CCM
- GE SNP
- GE SNPX
- Mitsubishi FX
- Mitsubishi Serial
- Modbus ASCII
- Modbus RTU Unsolicited
- Modbus Serial
- Omron FINS Serial
- Siemens S7 200
- Siemens S7 MPI
- Simatic 505 Serial
- SquareD Serial
- UCON-User Configured Driver
- Yaskawa MP Serial
- Yokogawa DX Serial



YASKAWA



SIEMENS

**Supports Emerson and third-party PLCs and I/O
for Easy Integration into Existing Solutions**

QuickPanel+™: Specifications



Specifications					
Screen Sizes	6"	7"	10"	12"	15"
Processor	Freescale i.MX535 1GHz based on ARM Cortex A8				
Memory (RAM)	512MB DDR2 SDRAM 256MB SLC NAND Flash 512KB Battery Backed SRAM		1GB DDR3 SDRAM 512MB SLC NAND Flash 512KB Battery Backed SRAM		
Environmental	Cooling Methodology: Natural Convection Operating Temp: 0°C to +55°C Storage Temp: -10°C to +60°C Humidity: 85% RH (non-condensing) @ 30°C				
Storage	1x SD/SDHC Card Slot				
Connections	1x RS-232 COM Port 2x USB 2.0 (Type-A) 1x USB 2.0 (Mini Type-B) 1x Mic In (mono) 1x Line Out (stereo)		1x RS-232 COM Port 1x RS-485 COM Port 2x USB 2.0 (Type-A) 1x USB 2.0 (Mini Type-B) 1x Mic In (mono)		
Resolution	320 x 240	800 x 480	800 x 600	800 x 600 SVGA	1024 x 768 SVGA
Touch	Analog Resistive		Projected Capacitive Multi-touch (two-point)		
UL Listed US/CAN Hazardous locations	Class 1 Division 2; Class 2 Division 2; Class 3 Division 1 & 2		Class 1 Division 2		
Certifications	UL TYPE 4X CE (EN 60950-1, EN 61000-6-4, 61000-6-2) FCC Part15 CA IP65F (JEM 1030) RoHS ATEX Marine: ABS, BV, DNV GL				

RXi Industrial Displays

RXi Industrial Displays: Three Solutions

RXi - Panel PC



- ✓ Ease of Use
- ✓ Full OS with Open Functionality

RXi - Web Panel



- ✓ Flexibility
- ✓ Web Hosted Application

RXi - Industrial Monitor



- ✓ Performance
- ✓ Extended Visualization Without Processing



RXi Industrial Displays: Specifications

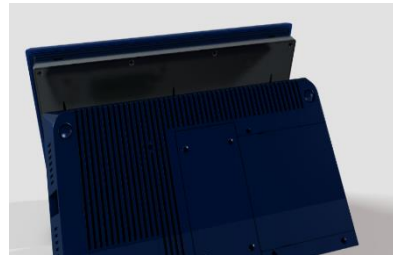


Specifications	RXi - Industrial Monitor						RXi - Panel PC						RXi - Web Panel					
Screen Sizes	7"	10"	12"	15"	19"	24"	7"	10"	12"	15"	19"	24"	7"	10"	12"	15"	19"	24"
Sunlight Readable Screen Sizes	✓	✓	✓	✓			✓	✓	✓	✓			✓	✓	✓	✓		
Processor	N/A						AMD embedded G-series SOC processor GX-210HL GX-412GC # of cores/TDP 2/7W 4/15W						Freescale i.MX 6DualLite # of cores/TDP 2 core/2.5W CPU frequency 1.0Ghz					
Memory (RAM)	N/A						32 / 64 / 128GB MLC SSD						2GB DDR3L					
Storage (SSD Options)	N/A						1x external micro SD/ SDHC card slot (up to 32GB)						4GB eMMC NAND flash memory					
Operating Temperature	-20°C to +65°C						-20°C to +65°C						-20°C to +65°C					
Connections	1x HDMI-In, 1x display port-in 1x display port-out 1x USB input (for touch) 1x aux out port						2 or 4* x ethernet TCP/IP - RJ45 1x RS232 COM port (5 pin connector) 1x RS485 COM port (5 pin connector) 2x USB 3.0 and 2* x USB 2.0 (Type A) 1x display port, 1x mic in (mono - 3.5mm jack) 1x line out (stereo - 3.5mm jack)						1x Gb ethernet TCP/IP - RJ45 1x RS232/422/485 COM port (DB-9) 1x USB 2.0 (Type A) 1x USB OTG (micro USB)					
Readability	1000 nit rating (cd/m2) – equivalent to 1200 NIT PCAP or ~1,400 NIT resistive touch, anti-glare, anti-reflective glass, optically bonded screens – LCD is bonded to the glass to cut down on refraction and increase visibility, same cutout, same connection, same certifications, same sensors																	
Notable Features	-20 to +60°C operating temperature, water and dust resistant screens – IP66 rated, scratch resistant and chemical/fluid resistant, sensitive enough for use with gloves, sunlight readable screen option available, Windows 10 IoT LTSB option available on panel PC, projected capacitive touch and multi-touch (ten point)																	
Certifications	UL and cUL 62368, UL and cUL 61010, IECCE CB scheme UL TYPE 4 & 4X, IP66 (ANSI/IEC 60529) CE (EN 62368, EN 61000-6-4, 61000-6-2) FCC part15 Class A RoHS UL Listed US/CAN hazardous locations: class 1 division 2, class 2 division 2, class 3 division 1 ATEX zone 2/22 & IECEx																	
	BIS Marine; DNV GL, ABS, BV, LR						BIS Marine; DNV GL, ABS, BV, LR						Marine; DNV GL, ABS, BV					

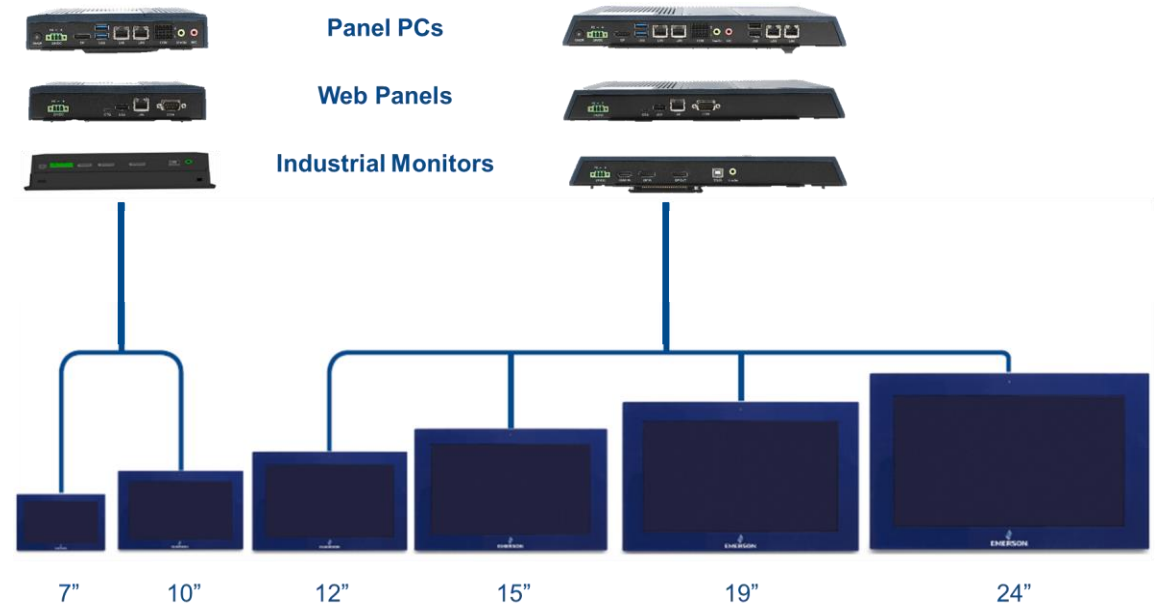
A Modular Approach to Industrial Displays

Separate and swap modules

- Easily slide and lock into place
- Secured in minutes



Shared screens across portfolio



Easy Upgrade and Serviceability

A Closer Look at the Connections



RXI – Panel PC

- 2 or 4* x Ethernet TCP/IP - RJ45
- 1 x RS232 COM Port (5 pin connector)
- 1 x RS485 COM Port (5 pin connector)
- 2 x USB 3.0 and 2* x USB 2.0 (Type A)
- 1 x Display Port
- 1 x Mic in (Mono - 3.5mm Jack)
- 1x Line Out (Stereo - 3.5mm Jack)



RXI – Web Panel

- 1 x Gb Ethernet TCP/IP - RJ45
- 1 x RS232/422/485 COM Port (DB-9)
- 1 x USB 2.0 (Type A)
- 1 x USB OTG (micro USB)



RXI – Industrial Monitor

- 1 x HDMI-In
- 1 x Display Port-In
- 1 x Display Port-Out
- 1 x USB Input (For Touch)
- 1 x Aux Out Port

A Closer Look at the Screens

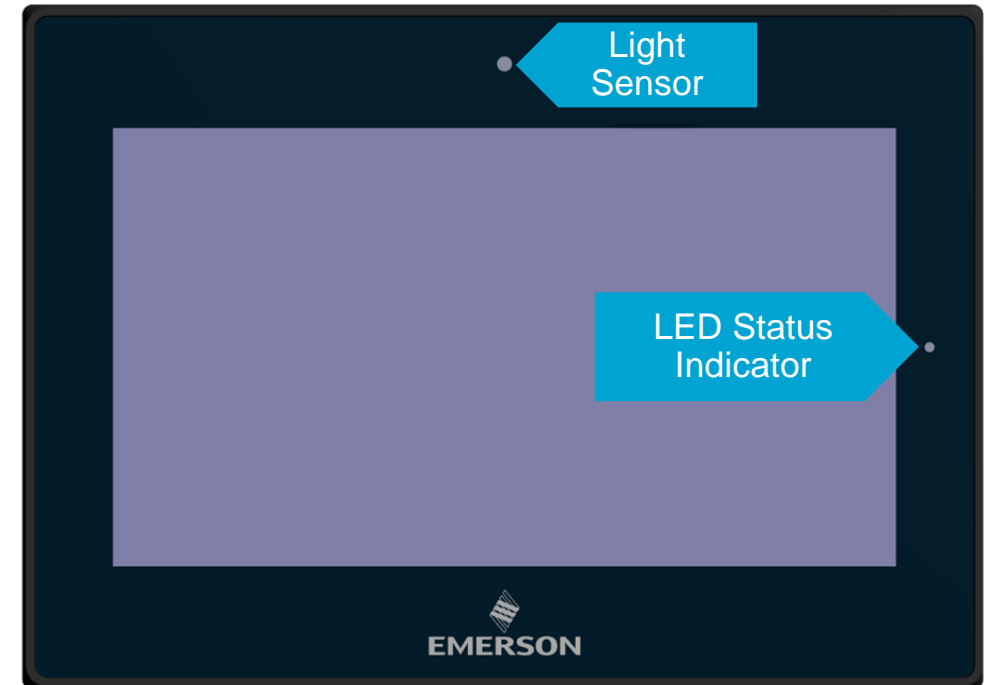
Integrated light sensor – Screen brightness auto-adjusts to environment

LED status indicator –
Tri-color LED: **Amber/Green/Red**

10-point projective capacitive touch –
Screen brightness auto-adjusts to environment

All glass fronts – Protects against scratching from knives, keys, and standard steel tools (i.e. wrench)

Chemical and fluid resistance



Outdoor, Sunlight Readable Screens

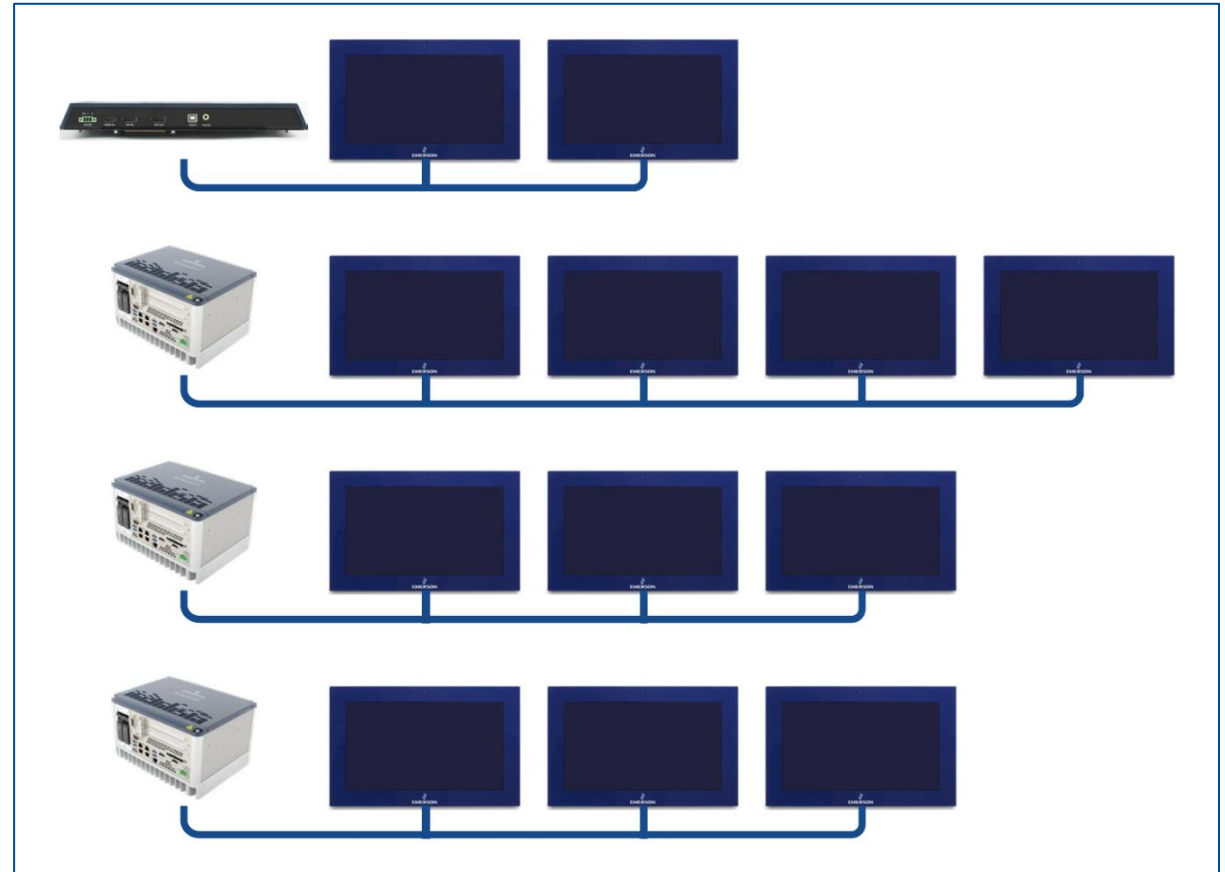
- 1000 Nit rating (cd/m²) – Equivalent to 1200 Nit PCAP or ~1,400 NIT Resistive touch
- Anti-Glare, Anti-Reflective glass
- Optically bonded screens – LCD is bonded to the glass to cut down on refraction and increase visibility
- Same cutout, same connection, same certifications, same sensors



Available in 7", 10", 12", 15" Screen Sizes

Adding Value MST Daisy Chaining

- Simplified connectivity and improved cost-savings
- Connect **up to four** RXi - Industrial Monitors to one IPC
- Uses multi-stream transport (MST) daisy-chaining technology.



Eliminates the Need for Multiple IPCs



Competitive Advantage

Enabling flexibility across a range of applications, Emerson's RXi industrial displays is the only solution of its kind on the market.

	Features Consistent Across the Portfolio?							
	IM, PPC & WHMI	Sunlight Readable	-20 to +65°C	Consistent Cutouts	Full Modularity	Consistent Certifications	IP66 & UL Type 4 / 4X	Complete Solution?
Top 10 Competitors	3 / 10	3 / 10	0 / 10	1 / 10	2 / 10	0 / 10	0 / 10	∅
EMERSON	Yes							✓

Back Up

2019 Product of the Year Winner

- Premier award for new products in the manufacturing and non-manufacturing industries
- Voted on by the audience of *Plant Engineering*
- Featured in the May 2020 print edition of Plant Engineering magazine
- Covers entire RXi Industrial Display portfolio
 - Panel PC, Web Panel, Industrial Monitor
- Highlights impressive combination of rugged, modular, and vivid displays
- Delivers the best possible user interface experience



Plant Analytics & Design Category – Silver award

Using the RXi - Industrial Display Family - Gloves

What types of gloves can be used?



Material	Latex	Nylon	Polyester	Cotton	Cotton	Leather
Thickness (mm)	0.12	0.85	0.85	1.85	1.85	0.85

- These values represent glove compatibility on the standard sensitivity setting
- An increased sensitivity setting is available and we can help with testing to validate your application

What About Scratching?

How do these screens fare against getting scratched?

All RXi Industrial Displays have special Glass PCAP screens

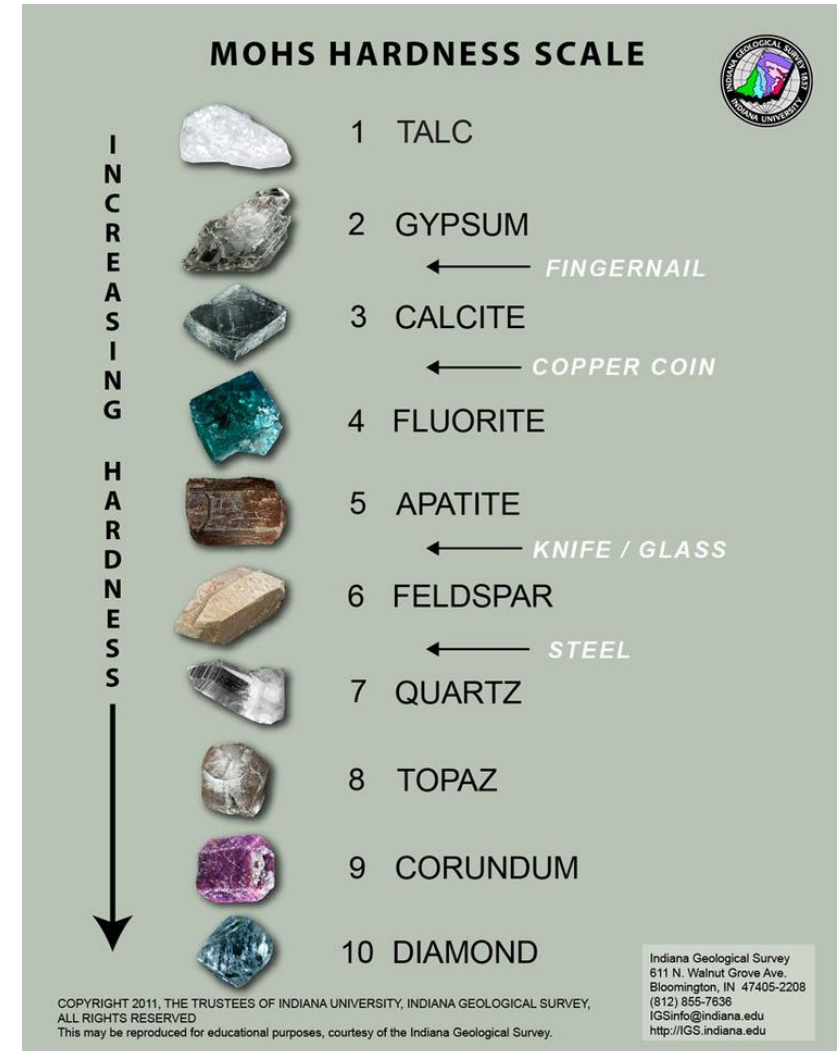
No Plastic Resistive overlay

Special glass has 7 rating on Mohs Hardness scale

Mohs scale measures hardness of various materials:

- Harder materials can scratch softer ones
- Softer materials are unable to scratch harder ones

RXi Industrial Displays have strong resistance against scratching from fingernails, knives, keys, and standard steel tools



Chemical and Fluid Resistance/Compatibility

What chemicals/fluids are these screens compatible/resistant to?

Acetone

Unleaded Gasoline

Isopropyl Alcohol

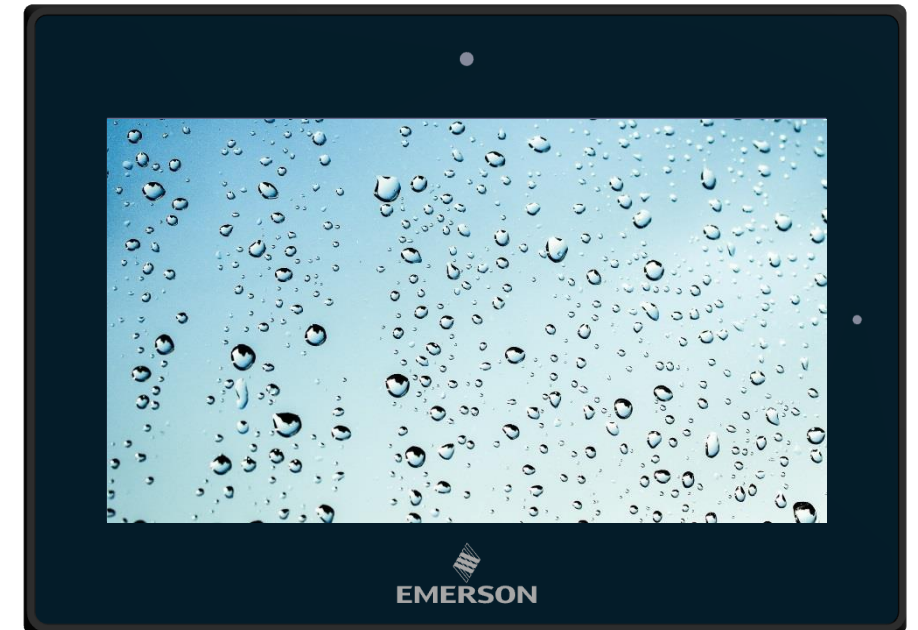
Motor Oil

Laundry Detergents

5% Salt Water

Hydraulic Fluid

Skydrol



What About Cables?

Information about standard cables

All RXi Industrial Monitors ship with 6' DisplayPort and USB cables (touch)

Cables of various lengths can be purchased at your store of choice

Maximum cable lengths:

- Display Port – up to 3m for 4K, up to 15m for 1080P
- HDMI – up to 10m for 4K, up to 30m for 1080P

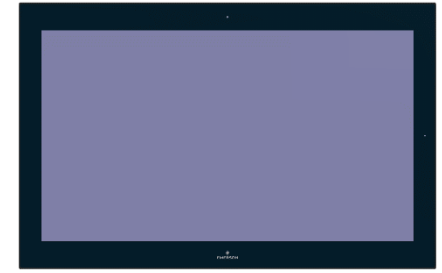
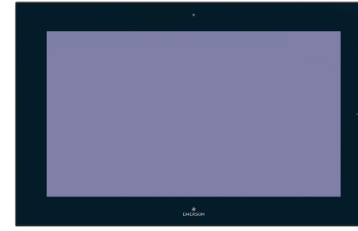
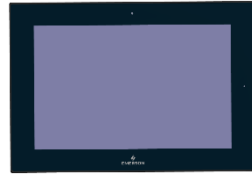
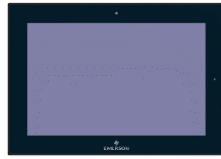
USB Type B to Type A for touch – up to 5m (Full speed 2.0 and active)



RXi – Panel PC



RXi – Panel PC: Understanding the Offering



**RXi - Panel PC
(7)**

**RXi - Panel PC
(10)**

**RXi - Panel PC
(12)**

**RXi - Panel PC
(15)**

**RXi - Panel PC
(19)**

**RXi - Panel PC
(24)**

16:9 Widescreen
1024 x 600

16:10 Widescreen
1280 x 800

16:10 Widescreen
1280 x 800

16:9 Widescreen
1920 x 1080

16:9 Widescreen
1920 x 1080

16:9 Widescreen
1920 x 1080

RXi - Panel PC 7& 10

1024 x 600 WSVGA (7)
1280 x 800 WXGA (10)
LED, Dimmable via Software

Projected Capacitive Touch
Multi-touch (ten point)

AMD G Series - Dual Core LX 1GHz x86

4GB or 8GB DDR3

32/64/128GB MLC SSD w/external access port
Micro SD/SDHC Card Slot

2 x Ethernet TCP/IP - RJ45
1 x RS232 COM Port (5 pin connector)
1 x RS485 COM Port (5 pin connector)
2 x USB 3.0 (Type A)
1 x Display Port
1 x Mic in (Mono - 3.5mm Jack)
1x Line Out (Stereo - 3.5mm Jack)

RXi - Panel PC 12

1280 x 800 WXGA
LED, Dimmable via Software

Projected Capacitive Touch
Multi-touch (ten point)

AMD G Series - Quad Core 1.2GHz x86

4GB or 8GB DDR3

32/64/128GB MLC SSD w/external access port
Micro SD/SDHC Card Slot

4 x Ethernet TCP/IP - RJ45
1 x RS232 COM Port (5 pin connector)
1 x RS485 COM Port (5 pin connector)
2 x USB 3.0 and 2 x USB 2.0 (Type A)
1 x Display Port
1 x Mic in (Mono - 3.5mm Jack)
1x Line Out (Stereo - 3.5mm Jack)

RXi - Panel PC 15

RXi - Panel PC 19

1920 x 1080 FHD
LED, Dimmable via Software

Projected Capacitive Touch / Multi-touch (ten point)

AMD G Series - Quad Core 1.2GHz x86

4GB or 8GB DDR3

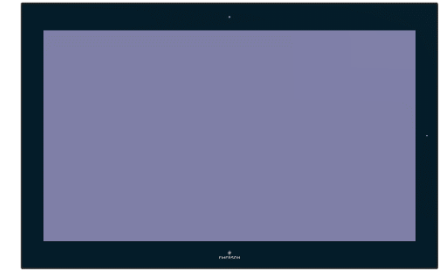
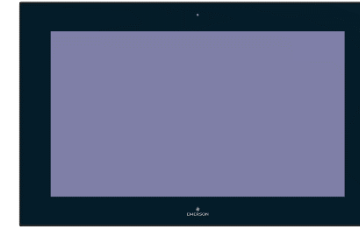
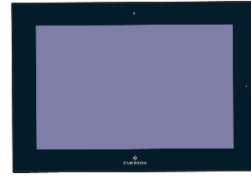
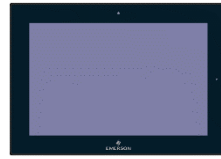
32/64/128GB MLC SSD w/external access port
Micro SD/SDHC Card Slot

4 x Ethernet TCP/IP - RJ45
1 x RS232 COM Port (5 pin connector)
1 x RS485 COM Port (5 pin connector)
2 x USB 3.0 and 2 x USB 2.0 (Type A)
1 x Display Port
1 x Mic in (Mono - 3.5mm Jack)
1x Line Out (Stereo - 3.5mm Jack)

RXi - Panel PC 24



RXi – Panel PC: Understanding the Offering



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16:9 Widescreen
1024 x 600

16:10 Widescreen
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16:9 Widescreen
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16:9 Widescreen
1920 x 1080

RXi - Panel PC 7 & 10

RXi - Panel PC 12

RXi - Panel PC 15

RXi - Panel PC 19

RXi - Panel PC 24

IP66 Rated Screen / IP20 Rated Rear

IP66 Rated Screen / IP20 Rated Rear

IP66 Rated Screen / IP20 Rated Rear

-20 to +65°C Operating Temperature

-20 to +65°C Operating Temperature

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ATEX Zone 2 / 22 & IECEx

ATEX Zone 2 / 22 & IECEx

ATEX Zone 2 / 22 & IECEx

UL C1D2, C2D2, C3D1

UL C1D2, C2D2, C3D1

UL C1D2, C2D2, C3D1

UL Type 4 & 4X

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Marine: DNV GL, ABS, BV, LR

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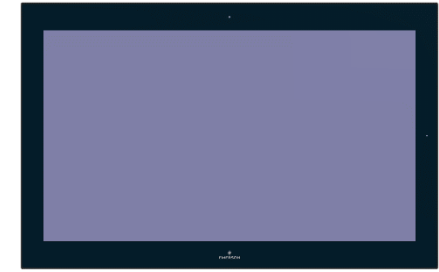
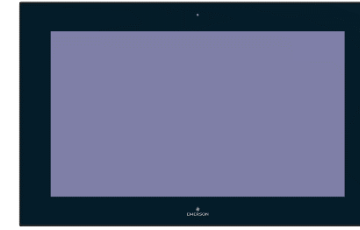
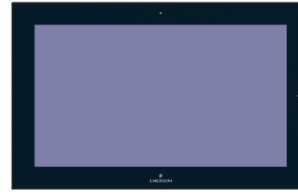
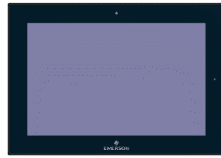
Outdoor Rated, Sunlight Readable Display
available

Outdoor Rated, Sunlight Readable Display
available

Outdoor Rated, Sunlight Readable Display available (15 only)

RXi – Web Panel

RXi – Web Panel: Understanding the Offering



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RXi - Web Panel 7 & 10

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1024 x 600 WSVGA (7)
1280 x 800 WXGA (10)
LED, Dimmable via Software

1280 x 800 WXGA
LED, Dimmable via Software

1920 x 1080 FHD
LED, Dimmable via Software

Projected Capacitive Touch
Multi-touch (ten point)

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Projected Capacitive Touch / Multi-touch (ten point)

Freescale i.MX 6 - Dual Core 1.0GHz
2GB DDR3L

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Freescale i.MX 6 - Dual Core 1.0GHz
2GB DDR3L

4GB e.MMC NAND Flash Memory

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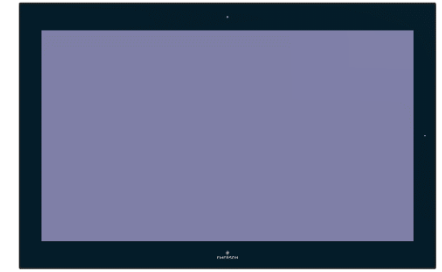
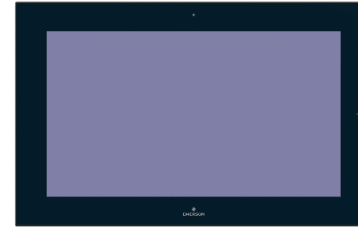
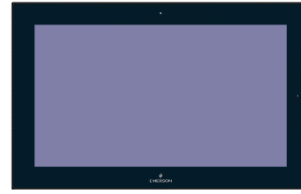
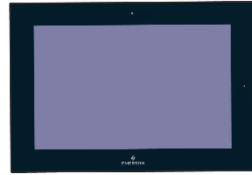
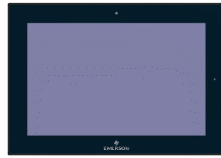
Linux Kernel 4.1.15 – Yocto
Chromium & Firefox browsers
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RXi – Web Panel: Understanding the Offering



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1024 x 600

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1280 x 800

16:10 Widescreen
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16:9 Widescreen
1920 x 1080

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RXi - Web Panel 7 & 10

RXi - Web Panel 12

RXi - Web Panel 15

RXi - Web Panel 19

RXi - Web Panel 24

IP66 Rated Screen / IP20 Rated Rear

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LED, Dimmable via Software

-20 to +65°C Operating Temperature

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UL C1D2, C2D2, C3D1

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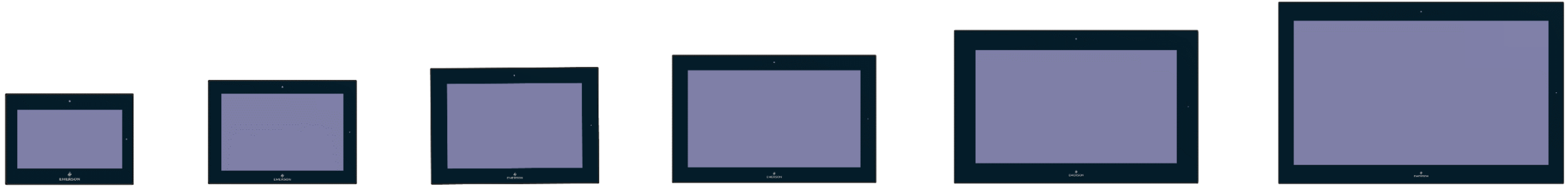
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RXi – Industrial Monitor



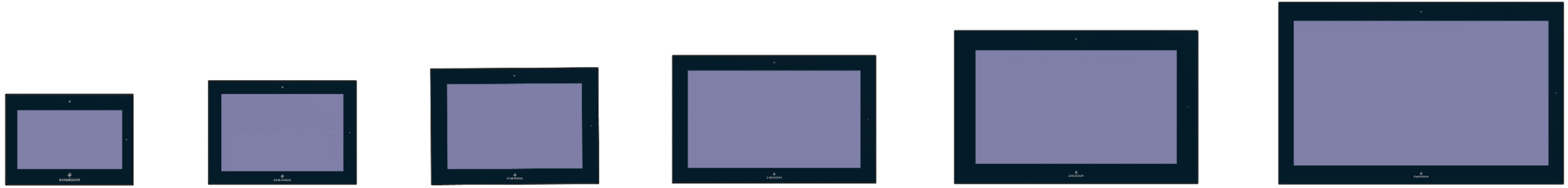
RXi – Industrial Monitor: Understanding the Offering



RXi – Industrial Monitor (7)	RXi – Industrial Monitor (10)	RXi – Industrial Monitor (12)	RXi – Industrial Monitor (15)	RXi – Industrial Monitor (19)	RXi – Industrial Monitor (24)
16:9 Widescreen 1024 x 600	16:10 Widescreen 1280 x 800	16:10 Widescreen 1280 x 800	16:9 Widescreen 1920 x 1080	16:9 Widescreen 1920 x 1080	16:9 Widescreen 1920 x 1080
RXi – Industrial Monitor 7 & 10		RXi – Industrial Monitor 12	RXi – Industrial Monitor 15	RXi – Industrial Monitor 19	RXi – Industrial Monitor 24
1024 x 600 WSVGA (7) 1280 x 800 WXGA (10) LED, Dimmable via Software		1280 x 800 WXGA LED, Dimmable via Software		1920 x 1080 FHD LED, Dimmable via Software	
Projected Capacitive Touch Multi-touch (ten point)		Projected Capacitive Touch Multi-touch (ten point)		Projected Capacitive Touch / Multi-touch (ten point) Non-Glare Tempered Glass (on Outdoor SLR Screens)	
1 x HDMI-In 1 x Display Port-In 1 x Display Port-Out (MST – Daisy Chain) 1 x USB Input (For Touch) 1 x Aux Out Port		1 x HDMI-In 1 x Display Port-In 1 x Display Port-Out (MST – Daisy Chain) 1 x USB Input (For Touch) 1 x Aux Out Port		1 x HDMI-In 1 x Display Port-In 1 x Display Port-Out (MST – Daisy Chain) 1 x USB Input (For Touch) 1 x Aux Out Port	



RXi – Industrial Monitor: Understanding the Offering



RXi – Industrial Monitor (7)	RXi – Industrial Monitor (10)	RXi – Industrial Monitor (12)	RXi – Industrial Monitor (15)	RXi – Industrial Monitor (19)	RXi – Industrial Monitor (24)
16:9 Widescreen 1024 x 600	16:10 Widescreen 1280 x 800	16:10 Widescreen 1280 x 800	16:9 Widescreen 1920 x 1080	16:9 Widescreen 1920 x 1080	16:9 Widescreen 1920 x 1080
RXi – Industrial Monitor 7, 10 & 12			RXi – Industrial Monitor 15	RXi – Industrial Monitor 19	RXi – Industrial Monitor 24
IP66 Rated Screen / IP20 Rated Rear				IP66 Rated Screen / IP20 Rated Rear LED, Dimmable via Software	
-20 to +65°C Operating Temperature				-20 to +65°C Operating Temperature	
ATEX Zone 2 / 22 & IECEx				ATEX Zone 2 / 22 & IECEx	
UL C1D2, C2D2, C3D1				UL C1D2, C2D2, C3D1	
UL Type 4 & 4X				UL Type 4 & 4X	
Marine: DNV GL, ABS, BV, LR				Marine: DNV GL, ABS, BV, LR	
Outdoor Rated, Sunlight Readable Display available				Outdoor Rated, Sunlight Readable Display available (15 only)	