OptixPanel™ Standard Operator Panel

Bulletin 2800S

Allen-Bradley
by ROCKWELL AUTOMATION

User Manual

Original Instructions

Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

Reproduction of the contents of this manual, in whole or in part, without written permission of Rockwell Automation, Inc., is prohibited.

Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

WARNING: Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.

ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence.

IMPORTANT Identifies information that is critical for successful application and understanding of the product.

These labels may also be on or inside the equipment to provide specific precautions.

SHOCK HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.

BURN HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.

ARC FLASH HAZARD: Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

The following icon may appear in the text of this document.

Identifies information that is useful and can help to make a process easier to do or easier to understand.

Clean the Operator Panel

Chapter 5

Troubleshooting

Chapter 6

Replace components

Chapter 7

This manual is a user guide for OptixPanel™ Standard operator panels for visualization and control. It provides procedures for the following:

- Install the operator panel.
- Make operator panel connections.
- Operate the operator panel.
- Troubleshoot the operator panel.

A general knowledge of automation technology is needed to understand and follow the instructions in this publication.

Catalog Numbers

This publication is applicable to these OptixPanel operator panels. For your catalog number, see the product label on the side of your operator panel.

Cat. No. Identifier	Bezel material	Touchscreen type
2800S-***DS-***	Aluminum - EX	Resistive
2800S-***ES-***	Aluminum True Flat - EX	Resistive
2800S-***FM-***	Aluminum and glass True Flat - EX	PCAP
2800S-***XS-***	Stainless steel IP69K	Resistive

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation. You can view or download publications at rok.auto/literature.

Resource	Description
OptixPanel Standard Installation Instructions, publication 2800S-IN001A	Provides basic installation guidelines and instructions.
OptixPanel Technical Data, publication 2800-TD001	Provides technical specifications about the OptixPanel stems.
FactoryTalk Optix Help Center, website	FactoryTalk Optix Help Center.
EtherNet/IP Network Devices User Manual, ENET-UM006	Describes how to configure and use EtherNet/IP devices to communicate on the EtherNet/IP network.
Ethernet Reference Manual, ENET-RM002	Describes basic Ethernet concepts, infrastructure components, and infrastructure features.
System Security Design Guidelines Reference Manual, SECURE-RM001	Provides guidance on how to conduct security assessments, implement Rockwell Automation products in a secure system, harden the control system, manage user access, and dispose of equipment.
UL Standards Listing for Industrial Control Products, publication CMPNTS-SR002	Assists original equipment manufacturers (OEMs) with construction of panels, to help ensure that they conform to the requirements of Underwriters Laboratories.
American Standards, Configurations, and Ratings: Introduction to Motor Circuit Design, publication IC-AT001	Provides an overview of American motor circuit design based on methods that are outlined in the NEC.
Industrial Components Preventive Maintenance, Enclosures, and Contact Ratings Specifications, publication IC-TD002	Provides a quick reference tool for Allen-Bradley industrial automation controls and assemblies.
Safety Guidelines for the Application, Installation, and Maintenance of Solid-state Control, publication SGI-1.1	Designed to harmonize with NEMA Standards Publication No. ICS 1.1-1987 and provides general guidelines for the application, installation, and maintenance of solid-state control in the form of individual devices or packaged assemblies incorporating solid-state components.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, rok.auto/certifications.	Provides declarations of conformity, certificates, and other certification details.

Notes:

Overview

The Allen-Bradley® OptixPanel™ Standard is an operator panel, equipped with NXP® i.MX 8M Mini Quad ARM Cortex A53 1.6GHz processor, for visualization and control, ideal for applications that require a high-performance Human Machine Interface (HMI).

Highlights

- Embedded solutions based on FactoryTalk® Optix™, the new collaborative, cloud-based software platform that offers an unprecedented degree of flexibility, scalability, extensibility and openness for visualization and Edge Computing applications.
- Full industrial interoperability for M2M scenarios and interfacing to MES and ERP systems thanks to native support for the OPC UA protocol, simple two-way communication with Cloud infrastructures via MQTT protocol.
- Natively equipped with two Gigabit Ethernet ports, two USB 3.0 ports and a multi-standard serial port.
- Integrated FactoryTalk® Remote Access™ software for remote assistance (UBIQUITY license compatible).

Bezels

The system is available with different kinds of bezels:

- Aluminum bezel (AF) with single touch resistive touchscreen.
- Aluminum True Flat bezel (AT) with single touch resistive touchscreen.
- Aluminum and glass True Flat bezel (GL) with multi touch capacitive touchscreen.
- Stainless steel IP69K bezel (SS) with single touch resistive touchscreen.

Figure 1 - OptixPanel Standard bezels

Aluminum bezel with single touch resistive touchscreen (AF)

Sizes available
7.0 in. W [5:3]
10.1 in. W [16:10]
12.1 in. W [16:10]
15.6 in. W [16:9]
18.5 in. W [16:9]
21.5 in. W [16:9]

Sizes available
10.4"S [4:3]
12.1"S [4:3]
15.0"S [4:3]

Aluminum True Flat bezel with single touch resistive touchscreen (AT)

Sizes available
10.4"S [4:3]
12.1"S [4:3]
15.0"S [4:3]

Stainless steel IP69K bezel with resistive touchscreen (SS)

Sizes available
10.1 in. W [16:10]
12.1 in. W [16:10]
15.6 in. W [16:9]
18.5 in. W [16:9]
21.5 in. W [16:9]

Aluminum and glass True Flat bezel with multi touch capacitive touchscreen (GL)

Sizes available
7.0 in. W [5:3]
10.1 in. W [16:10]
12.1 in. W [16:10]
15.6 in. W [16:9]
18.5 in. W [16:9]
21.5 in. W [16:9]

Aluminum bezel with single touch resistive touchscreen (AF)

Table 1 - Aspect ratio

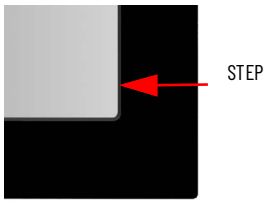
Panel size	Aspect ratio	Panel size	Aspect ratio
7.0 in. W	5 : 3	10.4 in. S	4 : 3
10.1 in. W	16 : 10	12.1 in. S	4 : 3
12.1 in. W	16 : 10	15.0 in. S	4 : 3
15.6 in. W	16 : 9		
18.5 in. W	16 : 9		
21.5 in. W	16 : 9		

Figure 2 - Aluminum bezel with resistive touchscreen

No.	Description
1	Frame
2	Active display area
3	On/Off/Standby LED

The front panel has a STEP between the frame and the touchscreen.

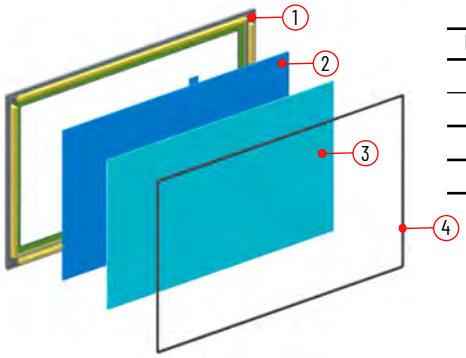
Figure 3 - STEP detail



Features:

- IP rating: IP65.
- Seal Type: EPDM gasketing elastomer.
- Frame material: EN AW-5754, H22 EN 485-1.

Figure 4 - Construction detail



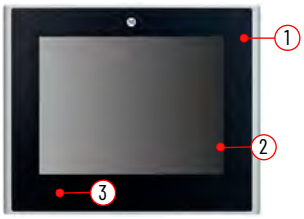
No.	Description
1	Aluminum Frame
2	5 wires resistive touchscreen
3	Glass
4	Seal

Aluminum True Flat bezel with single touch resistive touchscreen (AT)

Table 2 - Aspect ratio

Panel size	Aspect ratio
10.4 in. S	4 : 3
12.1 in. S	4 : 3
15.0 in. S	4 : 3

Figure 5 - Aluminum bezel with resistive touchscreen



No.	Description
1	Frame
2	Active display area
3	On/Off/Standby LED

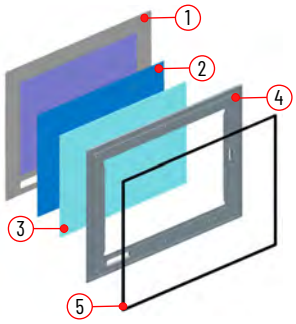
The front panel has a STEP between the frame and the touchscreen.

Figure 6 - STEP detail

Features:

- IP rating: IP65.
- Seal Type: EPDM gasketing elastomer.
- Frame material: EN AW-5754, H22 EN 485-1.

Figure 7 - Construction detail



No.	Description
1	Top polyester film
2	5 wires resistive touchscreen
3	Glass
4	Aluminum frame
5	Seal

Aluminum and Glass True Flat bezel with multi touch capacitive touchscreen (GL)

Table 3 - Aspect ratio

Panel size	Aspect ratio
7.0 in. W	5 : 3
10.1 in. W	16 : 10
12.1 in. W	16 : 10
15.6 in. W	16 : 9
18.5 in. W	16 : 9
21.5 in. W	16 : 9

Figure 8 - Aluminum and glass True Flat bezel with multi touch PCAP touchscreen

No.	Description
1	Frame
2	Active display area
3	On/Off/Standby LED

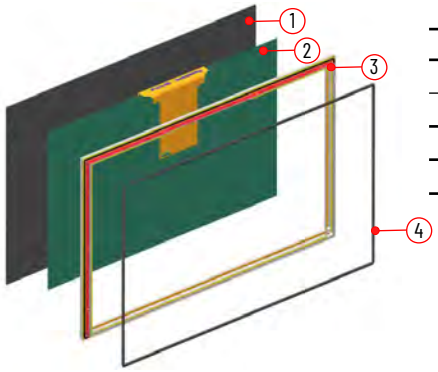
The front panels with true flat technology contain a Projective capacitive multitouch touchscreen that is handled by a USB controller within the system.

Figure 9 - NO STEP detail

Features:

- IP rating: IP65.
- Seal Type: EPDM gasketing elastomer.
- Frame material: Aluminum alloy 5754.

Figure 10 - Construction detail



No.	Description
1	Tempered glass
2	P-CAP capacitive multitouch touchscreen
3	Aluminum frame
4	Seal

Stainless steel IP69K bezel with single touch resistive touchscreen (SS)

Table 4 - Aspect ratio

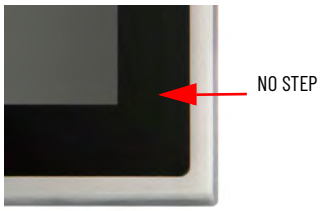
Panel size	Aspect ratio
10.1 in. W	16 : 10
12.1 in. W	16 : 10
15.6 in. W	16 : 9
18.5 in. W	16 : 9
21.5 in. W	16 : 9

Figure 11 - Aluminum and glass True Flat bezel with multi touch PCAP touchscreen.

No.	Description
1	Frame
2	Active display area
3	On/Off/Standby LED

The front panels with true flat technology contain a resistive touchscreen that is handled by a USB controller within the system.

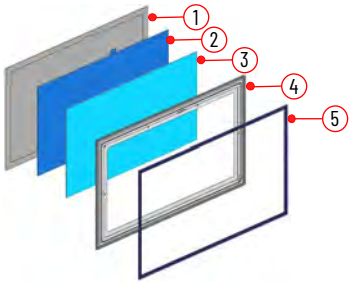
Figure 12 - NO STEP detail



Features:

- IP rating: IP69K
- Seal Type: Silicone color blue
- Frame material: Stainless steel (AISI 316L)

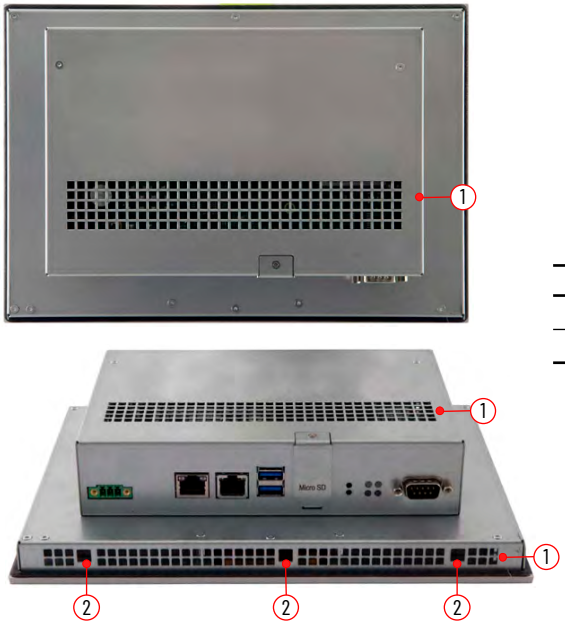
Figure 13 - Construction detail



No.	Description
1	Polyester base film with UV-curved anti glare hard surface coating (Kimoto Elastodur ED AG10)
2	5 wires resistive touchscreen
3	Tempered true flat glass
4	Stainless steel frame
5	Seal

Side view

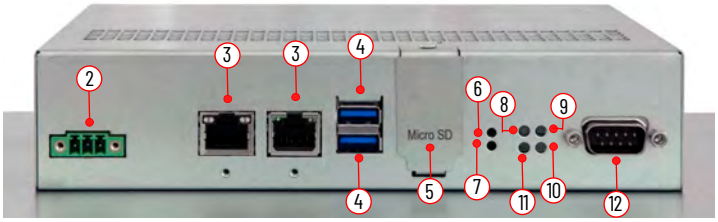
Figure 14 - 7.0 in. side view



No.	Description
1	Aeration holes
2	Recess for fixing clips

Connectors / LEDs / Buttons

OptixPanel Standard - rear view



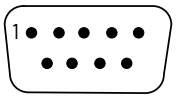
Item No.	Description	Required cable	LED Color	Function
1	Front Power On LED	–	Green	Indicates the system is powered on.
2	DC power	Unshielded	–	Power connector.
3	LAN	Shielded	–	RJ45 connector.
4	USB 3.0	Shielded	–	USB 3.0 connector.
5	Micro SD	–	–	Micro SD slot push push type.
6	Restart button	–	–	Forces an internal reset, as if power was lost temporarily and then returned. **IMPORTANT:** Use this button only if there are no better options, like keyboard or mouse commands, or if the resumed DC power does not restart the operator panel. System reset can cause data loss and possible corruption to the operating system.
7	Factory reset button	–	–	Allows the total restoration of the firmware and factory settings with the deletion of all application data.

Item No.	Description	Required cable	LED Color	Function
8	Restart / Power LED	–	Red	Power supply ON and Boot sequence FAIL.
				Restart button pressed.
			Green	Power supply ON and correct BOOT sequence.
9	LED COM1 TX	–	Green	Transmission signal for COM interface.
10	LED COM1 RX	–	Green	Receive signal for COM interface.
11	Factory Reset LED	–	Blue	Factory reset procedure in progress.
			OFF	Standard/common status.
12	COM	Shielded	–	RS232/422/485 isolated serial port connector.

WARNING: USB CONNECTORS NOT FOR USE IN HAZARDOUS LOCATIONS. TO USE ONLY FOR INITIAL SET-UP AND MAINTENANCE.

ADVERTISSMENT:LE CONNECTEURS USB NE DOIT PAS ÊTRE UTILISÉ DANS DES ENDROITS DANGEREUX. DOIT ÊTRE UTILISÉ POUR LA CONFIGURATION INITIALE ET LA MAINTENANCE SEULEMENT.

COM Pinout

PIN	RS232	RS422	RS485	Connector layout
1	+5V DC (OUT)	+5V DC (OUT)	+5V DC (OUT)	
2	RX	RX+	N.C.	
3	TX	TX-	RTX-	
4	N.C.	N.C.	N.C.	
5	GND	GND	GND	
6	N.C.	N.C.	N.C.	
7	RTS	RTX+	TX+	
8	CTS	RX-	N.C.	
9	N.C.	N.C.	N.C.	

Standards Compliance and Certifications

UL/cUL Mark Compliance

Equipment with the UL/cUL mark complies with the requirements of UL 61010-1, UL 61010-2-201, CSA C22.2 No. 61010-1, and CSA C22.2 No. 61010-2-201.

A copy of the certificate of compliance is available at rok.auto/certifications.

European Union Directive Compliance

This operator panel meets the European Union Directive requirements when installed within the European Union or EEA regions and have the CE marking. A copy of the declaration of the conformity is available at rok.auto/certifications.

ATEX Certification

Read this document very carefully because it contains safety information that takes priority over the system's User Guide. This document contains the instructions, the information, and the specific conditions, for the safe use of the systems and must be always taken as reference for installing, managing or updating the ATEX marked systems. The systems must be installed, managed and updated only by qualified personnel. The non-compliance with the safety instructions present into this document can result in death or serious injury. No responsibility is assumed by Rockwell Automation for any consequence arising from the improper use of the system in respect to the contents of the present document.

The contents of this document are referred only to the following systems on which the ATEX marking label is present.

Marking		Cat. number reference	Standards	
Ex	II 3D Ex tc IIIC T 70°C Dc II 3G Ex ec ic IIC T4 Gc X 0°C≤Tamb≤+50°C WARNING - DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT WARNING - DO NOT OPEN WHEN ENERGIZED	2800S-xxx-D 2800S-xxx-E 2800S-xxx-X	EN60079-0:2018	Explosive atmospheres – Part 0: Equipment – General Requirements
			EN60079-7:2015+A1:2018	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
			EN60079-11:2012+A11:2013	Explosive atmospheres – Part 11: Equipment protection by intrinsic safety"i"
			EN60079-31:2014	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Ex	II 3D Ex tc IIIC T70°C Dc II 3G Ex ec IIC T4 Gc X 0°C≤Tamb≤+50°C WARNING - DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT WARNING - DO NOT OPEN WHEN ENERGIZED	2800S-xxx-F	EN60079-0:2018	Explosive atmospheres – Part 0: Equipment – General Requirements
			EN60079-7:2015+A1:2018	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
			EN60079-31:2014	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"

WARNING: EXPLOSION HAZARD. Do not disconnect equipment while the circuit is live or unless the area is known to be free of ignitable concentrations.
AVERTISSEMENT: DANGER D'EXPLOSION. Ne pas débrancher l'équipement pendant que le circuit est sous tension ou à moins que la zone ne soit exempte de concetrations inflammables.

European Union Directive Compliance

This equipment meets the European Union Directive requirements when installed within the European Union or EEA regions and have the CE marking. A copy of the declaration of the conformity is available at rok.auto/certifications.

Declaration of Conformity

Rockwell Automation, Inc. declares that the Optix Panel Standard Family, 2800S, are in compliance with Essential Health and Safety Requirements of Directive 2014/34/EU (ATEX) as follows:

- Equipment Group II, Equipment Category 3.
- Type of Dust Protection "Ex tc IIIC T 70°C Dc ".
- Type of Gas Protection "Ex ec ic IIC T4 Gc" (for Aluminum, Aluminium True Flat, Stainless steel IP69K Bezel).
- Type of Gas Protection "Ex ec IIC T4 Gc" (for Aluminium and Glass TrueFlat Bezel).

Compliance to standard EN 60079-0:2018, EN 60079-7:2015 +A1:2018, EN 60079-11:2012 +A11:2013 and EN 60079-31:2014.

The full text of the EU declarations of conformity is available at the following website: rok.auto/certifications.

Technical specifications

OptixPanel™ Standard Operator Panel				
Attribute	**Aluminum bezel (AF)**	**Aluminum True Flat bezel (AT)**	**Aluminum and glass True Flat bezel (GL)**	**Stainless Steel Bezel (SS)**
HMI software	FactoryTalk® Optix™ runtime (License size: M / L)			
Remote assistance software	FactoryTalk® Remote Access™ PRO (UBIQUITY compatible)			
O.S. installed	Linux Yocto			
LED back-light TFT LCD	7.0 in. W 10.1 in. W 12.1 in. W 15.6 in. W 18.5 in. W 21.5 in. W 10.4 in. S 12.1" in. S 15.0" in. S	10.4 in. S 12.1" in. S 15.0" in. S	7.0 in. W 10.1 in. W 12.1 in. W 15.6 in. W 18.5 in. W 21.5 in. W	10.1 in. W 12.1 in. W 15.6 in. W 18.5 in. W 21.5 in. W
Touchscreen	Resistive 5 wires	Resistive 5 wires	P-CAP multitouch	Resistive 5 wires

OptixPanel™ Standard Operator Panel					
Attribute		**Aluminum bezel (AF)**	**Aluminum True Flat bezel (AT)**	**Aluminum and glass True Flat bezel (GL)**	**Stainless Steel Bezel (SS)**
Front Panel	Material	Aluminum	Aluminum True Flat	Aluminum and glass	Stainless Steel
	Logo	Allen-Bradley or brandless			
Protection grade IP	IP rating	IP 65 frontal			IP 69K INOX frontal
	NEMA rating	UL Type 1, 4X (indoor only), pending			
Case	Installation	Panel mounting			
	Material	Zinc-coated skin pass steel			
Processor (soldered on-board)		NXP® i.MX 8M Mini Quad ARM® Cortex® A53 1.6GHz - 64bit - integrated GPU			
System memory RAM		4GB (LP-DDR4 module)			
Mass storage		64GB eMMC p-SLC (~12GB available for Optix application)			
Storage expansion		1x MicroSD slot on board with external access (push-push)			
Interfaces	LAN	2x Gigabit Ethernet (RJ45)			
	USB	2x USB 3.0 (Type-A / host)			
	Serial	1x RS232/422/485 (DB9M) isolated			
Power supply input	DC input	24V 1.5A SELV			
	Voltage Range	18...32V			
Battery		1x CR2032 Internal access			
Operating Temperature		0...50° C (32...122° F)			
Storage Temperature		-20...60° C (-4...140° F)			
Operating / Storage Relative humidity		20%...90% RH (non-condensing)			

Installation

Follow these guidelines and procedures to help you plan your installation, prepare the panel cutout, and mount and power up the operator panel.

ATTENTION: Read this document and the documents listed in the Additional Resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards. Activities including installation, adjustments, putting into service, use, assembly, disassembly, safety, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice. If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
Ensure that the environment is free of hazardous gases and/or dust before connecting or disconnecting the system.
In case of partial or total system damage, switch off immediately the equipment and change the system. Cuts or slits on the touch-screen front foil are considered damages compromising the defined protection grade.
Transient protection shall be provided that is set at a level not exceeding 140% of 90V at the supply terminals to the equipment.
Compliance with regulations lapses if inappropriate maintenance and / or repairs are made by the Customer or by third parties not authorized.
For resistive touchscreen only:
Provision should be made to prohibit the product from being exposed to UV radiation while in use. Care should be taken not to rub or bluff the touchscreen surface in a way that might cause the accumulation of static charge.

To ensure the declared protection level, follow these instructions:
- Use only components supplied with the system (hooks, fixing screws).
- Make the mounting cut-out of the system following the instruction described.
- Do not allow layers of dust to form on the system and clean it regularly.
- Before to switch the system on, to avoid condensation, wait until the system temperature reaches the temperature of the environment in which it is installed.
- For connections use fixing systems (ex. screws, slides, clamps) that ensure a reliable contact even with vibrations and ensure that all the interfaces (COM, LAN) are connected in a safe way.
- Execute the wiring of the equipment keeping signals and power cables separated.
- Use interconnection components like cables or other devices that meet the minimum requirements for appropriate use [ex. cable's max temperature 70 °C (158 °F)].
- Do not use damaged components.

Disposition for electrical connection:
- Strictly follow the instructions of the system's User Guide.
- The systems has the polarity inversion protection. If the system does not switch on, check the connections because the polarity can be inverted.
- Always connect the earth on the system using the proper power supply connector terminal.
- In case of installation of the system on metallic cabinet, ensure the connection between the system earth and the cabinet earth.
- After the system installation you have to place on the equipment, in a clearly visible position, a label with the rating data present on the system's general label.

Safety

Installation according to the instructions

Commissioning the system device is prohibited until it has been absolutely ensured that the system in which the system is to be installed complies with all the applicable EU and international regulation.

Qualified personnel

- OptixPanel™ operator panels may be operated only by personnel qualified for the specific task in accordance with the relevant documentation for the specific task, in particular its warning notices and safety instructions.
- Qualified personnel are those who, based on their training and experience, are able to identify risks and avoid potential hazards when working with these systems.

Environment and Enclosure Information

- The enclosure must allow sufficient space around air inlets and outlets to provide the circulation necessary for cooling. Never allow air passages to become obstructed.
- Hot air rises. The temperature at the top of the enclosure is often higher than the temperature in other parts of the enclosure, especially if air is not circulating.
- Consider a user-supplied fan, heat exchanger, or air conditioner for heat generated by other devices in the enclosure.
- For installation in control cabinets and, in particular, in closed containers, make sure the ambient temperature complies with the requirements.
- The indicated environmental conditions must be observed.
- Verify the operating temperature of the equipment to ensure that the specified temperature range is not exceed after it is installed in the end user application.

ATTENTION: This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in IEC 60664-1), at altitudes up to 2000 m (6561 ft) without derating.
This equipment is considered Group 1, Class A industrial equipment according to IEC/EN 61326-1. Without appropriate precautions, there can be potential difficulties with electromagnetic compatibility in other environments due to conducted and radiated disturbance.

This equipment is UL Listed. However, to meet some regulatory requirements, the operator panel must be mounted in an enclosure that is suitably designed for environmental conditions that can be present.

All OptixPanel Operator Panels are shipped with a gasketed bezel to meet specified NEMA, UL Type, and IEC IP ratings only when mounted in a panel or enclosure with an equivalent rating

In addition to this publication, see the following:

Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1, for more installation requirements.

UL 50, CSA C22.2 No. 94.1, and IEC 60529, as applicable, for explanations of the degrees of protection provided by enclosures.

Equipment with the UL/cUL mark complies with the requirements of UL 61010-1, UL 61010-2-201, CSA C22.2 No. 61010-1, CSA C22.2 No. 61010-2-201. Copies of the certificate of compliance are available at rok.auto/certifications.

Working on the control cabinet

- The system is an open equipment. The cabinet in which the system is installed should only be accessed with a key or tool and only by trained and authorized personnel.
- Dangerous voltage. Opening the cabinet may expose high voltage parts. Before opening the cabinet, always disconnect the power.

Unpack

Before you unpack the operator panel, inspect the shipping carton for damage. If damage is visible, immediately contact the shipper and request assistance. Otherwise, proceed with unpacking.

Keep the original packing material in case you must return the operator panel for repair or transport it to another location.

This product is shipped with the following items:

Parts List

Item	Description
Hardware	OptixPanel™ Standard Operator Panel with FactoryTalk Optix and FactoryTalk Remote Access installed and activated.
	Mounting clips for panel installation.
	Hexagonal key, 1.5 mm.
	Removable power terminal block, pre-installed.
	Removable power terminal block cover kit.
	Eyelet terminal, pre-installed.
Document	Installation instructions.

Installation Guidelines

WARNING: Special Conditions for Safe Use:
- The ambient temperature range is 0...50 °C (32...122 °F).
- Subject devices are to be installed in a tool-only accessible enclosure that provides a degree of protection not less than IP54 for atmospheres with gas or IP6x for atmospheres with dust, in accordance with IEC/EN 60079-0, Explosive atmospheres – Part 0: Equipment – General requirements and IEC/EN 60079-7, Explosive atmospheres – Part 7: Equipment protection by increased safety "e". Enclosure is to be marked with the following: "Warning - Do not open when energized". After installation of subject devices into the enclosure, access to termination compartments shall be dimensioned so that conductors can be readily connected. Grounding conductor should have a minimum cross-sectional area of 1.5 mm^2 (16 AWG) .
- Subject devices are for use in an area of not more than pollution degree 2 in accordance with IEC 60664-1.
- Subject devices are to use copper conductors with a minimum conductor temperature rating of 75 °C (167 °F).
- Subject devices are to be installed in the vertical orientation only.

AVERTISSEMENT: Conditions particulières d'utilisation sécuritaire :
- La plage de température ambiante est de 0...50 °C (32...122 °F).
- Les dispositifs en question doivent être installés dans un boîtier accessible uniquement aux outils qui offre un degré de protection au moins égal à IP54 pour les atmosphères avec gaz ou IP6x pour les atmosphères avec poussièreconformément à la norme CEI/EN 60079-0, Atmosphères explosives – Partie 0 : Équipement – Exigences générales et à la norme CEI/EN 60079-7, Atmosphères explosives – Partie 7 : Protection de l'équipement par une sécurité accrue « e ». L'annexe doit porter la mention suivante : « Avertissement - Ne pas ouvrir lorsqu'il est sous tension ». Après l'installation des dispositifs en question dans l'enceinte, l'accès aux compartiments de terminaison doit être dimensionné de sorte que les conducteurs puissent être facilement raccordés. Le conducteur de mise à la terre doit avoir une section transversale minimale de 1,5 mm^2 (16 AWG).
- Les dispositifs en question doivent être utilisés dans une zone ne dépassant pas le degré de pollution 2 conformément à la norme CEI 60664-1.
- Les dispositifs visés doivent utiliser des conducteurs en cuivre dont la température nominale minimale est de 75 °C (167 °F).
- Les dispositifs en question ne doivent être installés qu'à la verticale.

WARNING: This operator panel is intended to operate in an industrial or control room environment, which uses some form of power isolation from the public low-voltage mains. Some operator panel configurations cannot comply with the EN 61000-3-2 Harmonic Emissions standard as specified by the EMC Directive of the European Union. Obtain permission from the local power authority before you connect any computer configuration that draws more than 75 W of AC power directly from the public mains. All I/O cables are rated for indoor use only.

AVERTISSEMENT: Ce panneau de commande est conçu pour fonctionner dans un environnement industriel ou de salle de commande, qui utilise une certaine forme d'isolation de l'alimentation électrique du réseau public basse tension. Certaines configurations informatiques ne peuvent pas être conformes à la norme EN 61000-3-2 sur les émissions harmoniques telle que spécifiée par la directive EMC de l'Union européenne. Obtenir l'autorisation de l'autorité d'alimentation locale avant de connecter une configuration informatique qui tire plus de 75 W d'alimentation CA directement du secteur public. Tous les câbles d'E/S sont conçus pour une utilisation à l'intérieur seulement.

- When choosing the installation site, consider the following:
  - The site must have sufficient power.

  - The site must be indoors.
  - The site must not expose the operator panel to direct sunlight.
- The operator panel can operate in the following environmental conditions:
  - Operation temperature: 0...+50 °C (32...122 °F).
  - Storage temperature: -20...+60 °C (-4°...140 °F).
  - Operation / storage relative humidity (RH) non condensing: 20...90%.
  - Hazardous Locations Temperature Class: T4.

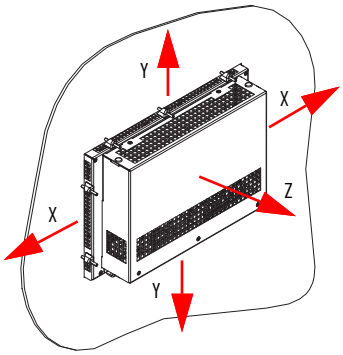
IMPORTANT The operator panel can operate at a range of extremes. However, the life span of any electronic device is shortened if you continuously operate the operator panel at its highest rated temperature, which includes the touch screen and LCD panel.

Mounting Requirements

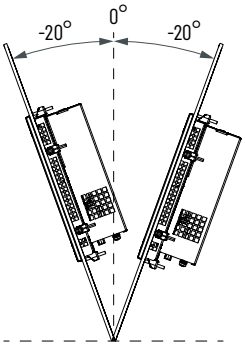
Follow these requirements to mount the operator panel.

- Choose a suitable mounting height.
- To help prevent overheating and to provide access to the I/O ports for cable connections, mount the operator panel with the following minimum clearances from all four sides of the outer frame and back of the operator panel chassis:
  - X direction ≥ 50 mm (1.96 in.)
  - Y direction ≥ 100 mm (3.93 in.)
  - Z direction ≥ 50 mm (1.96 in.)

Installation min. clearance



Installation max. tilt

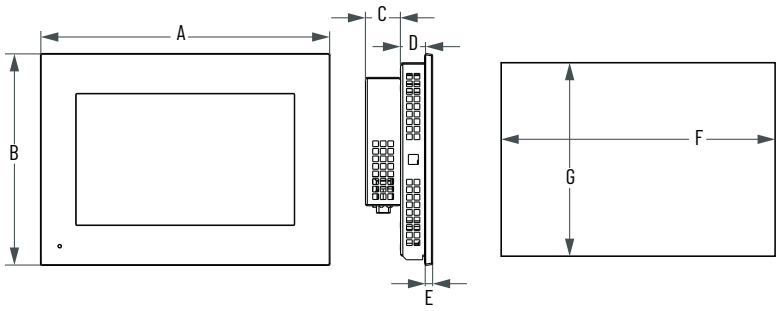


For optimal performance, mount the operator panel in the horizontal orientation and vertical (upright) position, so the I/O ports face down.

IMPORTANT The vertical position can be tilted up to 20° forward or backward from the upright position. In that case the maximum operating temperature will be reduced from 50°C (122 °F) to 45°C (113 °F). Tilt is NOT acceptable for ATEX installations.

Approximate Dimensions

Dimensions are in mm (inches). Dimensions are not intended to be used for manufacturing purposes.



Display Size [in.]	Cat. No.	Format[1]	Aspect Ratio	Bezel Type	Dimensions [mm. (in.)][2]					Cutout [mm. (in.)]	
					A	B	C	D	E	F	G
7.0	2800S-070DS-N1S 2800S-070DS-N1B	W1	5:3	Aluminum	207.0 (8.14)	150.6 (5.92)	54.1 (2.12)	–	5.0 (0.19)	197.0 (7.75)	141.5 (5.57)
	2800S-070FM-N1S 2800S-070FM-N1B	W2		Aluminum Glass True Flat			53.8 (2.11)		6.0 (0.23)		
10.1	2800S-101DS-N1S 2800S-101DS-N1B	W1	16:10	Aluminum	269.5 (10.61)	187.9 (7.39)	43.0 (1.69)	16.8 (0.66)	5.0 (0.19)	255.5 (10.05)	174.0 (6.85)
	2800S-101FM-N1S 2800S-101FM-N1B	W2		Aluminum Glass True Flat				17.3 (0.68)	6.5 (0.25)		
	2800S-101XS-N1S 2800S-101FM-N1B	W1		Stainless Steel	278.3 (10.95)	196.7 (7.74)		17.6 (0.69)	5.3 (0.20)		
10.4	2800S-104DS-N1S 2800S-104DS-N1B	S1	4:3	Aluminum	296.0 (11.65)	231.0 (9.09)	43.0 (1.69)	18.8 (0.74)	6.0 (0.23)	285.0 (11.22)	220.0 (8.66)
	2800S-104ES-N1S 2800S-104ES-N1B			Aluminum True Flat							
12.1	2800S-121DS-N1B 2800S-121DS-N1S	W1	16:10	Aluminum	315.0 (12.40)	217.0 (8.54)	43.0 (1.69)	19.8 (0.77)	5.0 (0.19)	301.0 (11.85)	203.0 (7.99)
	2800S-120DS-N1B 2800S-120DS-N1S	S1	4:3		326.0 (12.83)	261.0 (10.27)		18.8 (0.74)	6.0 (0.23)	315.0 (12.40)	250.0 (9.84)
	2800S-120ES-N1S 2800S-120ES-N1B			Aluminum True Flat							
	2800S-121FM-N1B 2800S-121FM-N1S	W2	16:10	Aluminum Glass True Flat	315.0 (12.40)	217.0 (8.54)		20.3 (0.79)	7.5 (0.29)	301.0 (11.85)	203.0 (7.99)
	2800S-121XS-N1B 2800S-121XS-N1B	W1		Stainless Steel	323.8 (12.74)	225.8 (8.88)		20.6 (0.81)	5.3 (0.20)		
15.0	2800S-150DS-N1S 2800S-150DS-N1B	S1	4:3	Aluminum	391.0 (15.39)	306.0 (12.04)	43.0 (1.69)	18.8 (0.74)	7.0 (0.27)	380.0 (14.96)	295 (11.61)
	2800S-150ES-N1S 2800S-150ES-N1B			Aluminum True Flat							
15.6	2800S-156DS-N1S 2800S-156DS-N1B	W1	16:9	Aluminum	401.5 (15.80)	251.0 (9.88)	43.0 (1.69)	21.8 (0.85)	5.0 (0.19)	388.0 (15.27)	237.5 (9.35)
	2800S-156FM-N1S 2800S-156FM-N1B	W2		Aluminum Glass True Flat				22.3 (0.87)	7.5 (0.29)		
	2800S-156XS-N1S 2800S-156XS-N1B	W1		Stainless Steel	410.6 (16.16)	260.1 (10.24)		23.6 (0.92)	5.3 (0.20)		237.0 (9.33)
18.5	2800S-185DS-N1S 2800S-185DS-N1B	W1	16:9	Aluminum	467.2 (18.39)	288.0 (11.33)	43.0 (1.69)	19.8 (0.77)	7.0 (0.27)	453.0 (17.83)	274.0 (10.78)
	2800S-185FM-N1S 2800S-185FM-N1B	W2		Aluminum Glass True Flat				20.3 (0.79)	10.5 (0.41)		
	2800S-185XS-N1S 2800S-185XS-N1B	W1		Stainless Steel	476.0 (18.74)	296.8 (11.68)		21.6 (0.85)	5.3 (0.20)		
21.5	2800S-215DS-N1S 2800S-215DS-N1B	W1	16:9	Aluminum	534.2 (21.03)	325.6 (12.81)	43.0 (1.69)	19.8 (0.77)	7.0 (0.27)	520.0 (20.47)	311.5 (12.26)
	2800S-215FM-N1S 2800S-215FM-N1B	W2		Aluminum Glass True Flat				20.3 (0.79)	10.5 (0.41)		
	2800S-215XS-N1S 2800S-215XS-N1B	W1		Stainless Steel	543.5 (21.39)	334.4 (13.16)		21.6 (0.85)	5.3 (0.20)		

(1) S = standard;
W = widescreen;
1 = single touch;
2 = multi-touch.

(2) Dimensions are +0/1 mm (0.04 in.).

Prepare the Panel Cutout

Observe these guidelines to install the operator panel in a panel.

WARNING: Failure to follow these guidelines can result in personal injury or damage to the panel components. Take precautions so any metal fragments during the panel cutout do not enter components that are installed already in the panel.

AVERTISSEMENT: Lorsqu'un panneau est découpé, des morceaux de métal peuvent être produits. Vous devez prendre les mesures de sécurité nécessaires pour prévenir la pénétration des morceaux dans les composants déjà installés dans le panneau.

Plan the panel cutout according to the following:

1. Plan the panel cutout area that is needed for your operator panel, see Approximate dimensions paragraph.
2. Verify that the area around the panel is clear of obstructions.
3. Remove all electrical power from the panel before you make the cutout.
4. The mounting panel material must be 3...6 mm (0.11...0.24 in.) thick with a max deformation limit on the plane of 0.5 mm (0.01 in.).
5. For a uniform gasket seal ensure the surface is clean and free of debris and that the roughness of the panel surface must be ≤ 120 microns (Rz 120).

Required Tools

- Panel cut out tools.
- 1.5 mm hex key (supplied with the mounting clips).
- Adjustable torque driver with 1.5 mm hex key bit.
- Safety glasses.
- Mounting clips (supplied); for the needed quantity, see Figure 15 .

Supplied tools

Sequence No.	Description
1	Clip
2	Hexagonal key

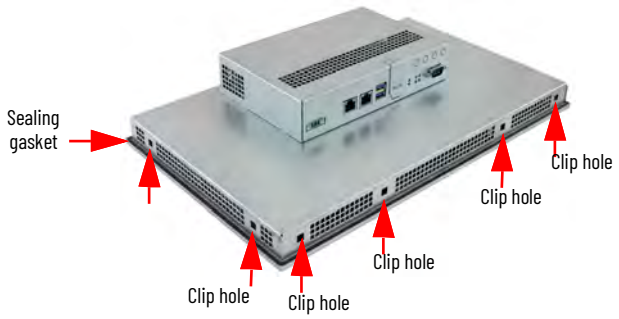
Install the Operator Panel

To install the operator panel in the panel cutout, perform the following steps.

IMPORTANT You need two people to install the operator panel; one person to hold the operator panel in place while another person installs the mounting clips.

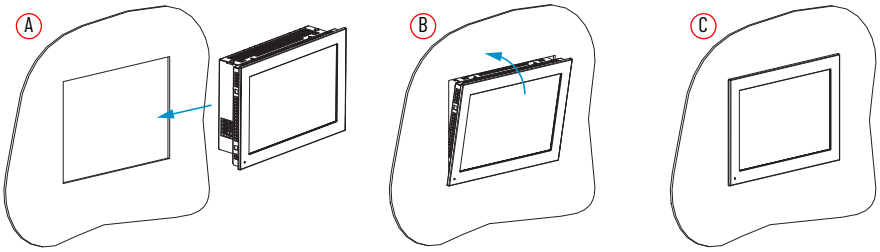
1. Remove all electrical power from the panel before you make the cutout.
2. Cut an opening in the panel area to the dimensions needed for your operator panel.
3. After the cutout is completed, clean the panel area of all debris and metal fragments.
4. Make sure that the sealing gasket is positioned properly on the operation panel.

Sealing gasket / Clip holes

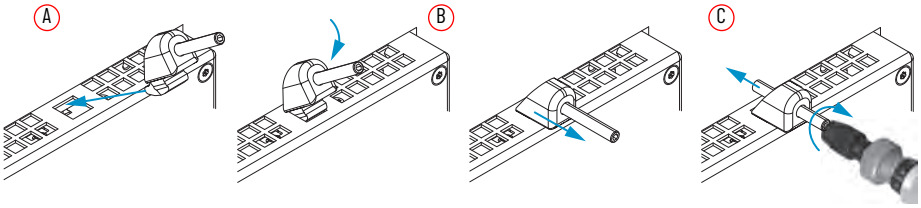


IMPORTANT The gasket is a part of the display and forms a compression-type seal. Do not use sealing compounds.

5. From the front of the panel insert the operator panel into the cutout (A) and rotate it (B) until it adheres completely to the panel (C).



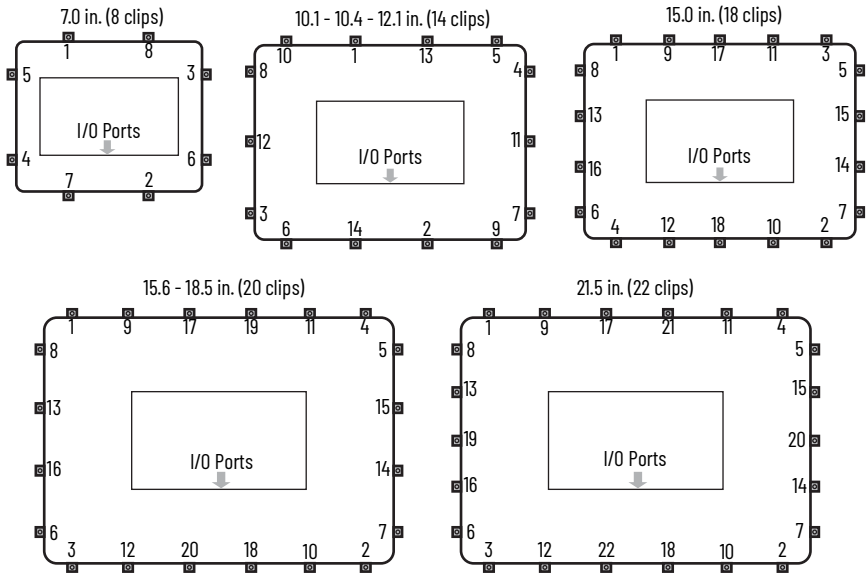
6. Slide the mounting clips into the holes on all four sides of the operator panel and repeat the following procedure for all the clips.



7. Insert the clip into the mounting hole side (D).
8. Rotate it down (E).
9. Pull it outward (F).
10. According to the tighten sequence in Figure 15, tighten the mounting clips (G) with the supplied hexagonal key and verify the torque of 0.2 N•m (1.8 lb•in) with a limiting screwdriver (needed a 1.5 mm hex key bit).

Figure 15 - Mounting clips tighten and torque sequence by display size

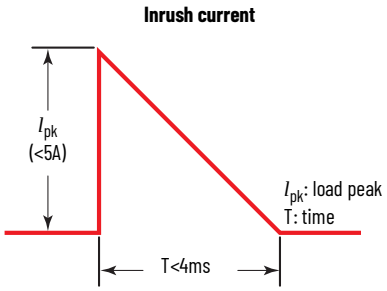
ATTENTION: tighten the mounting clips to the specified torque to provide a proper seal and to help prevent product damage. Rockwell Automation assumes no responsibility for water or chemical damage to the operator panel or other equipment within the enclosure because of improper installation.



DC Power Supply Guidelines

All operator panels have the following features:

- The internal power supply of the operator panel has a galvanically isolated DC-DC converter board for increased electrical noise immunity.
- Reverse polarity circuitry, overvoltage, and a 3 A soldered fuse provide input power protection.



Follow these guidelines to select the DC power to supply the operator panel.

- The operator panel must be powered with a voltage of 24V DC (18...32V DC SELV input voltage range).
- Power consumption is rated at 40 W max @ 50 °C (122 °F) ambient temperature.

ATTENTION: The system has to be powered with a 24VDC (18...32V) power supply which satisfies the requirements of safe extra low voltage (SELV) in accordance with IEC/EN/DIN EN/UL61010-1 and UL61010-2-201. The power supply has to fulfill the requirements NEC Class2 or LPS in accordance with IEC/EN/DIN EN/UL61010-1 and UL61010-2-201.

To minimize ground loop currents and noise, we recommend that DC powered models use only one grounded connection.

Power Consumption

The following table shows the maximum power consumption in Watts of various components in the operator panels.

Table 5 - Maximum Power Consumption in Watts [W]

Component	Description	Power [W]
Display size (in.)	7.0	5.4
	10.1	7.6
	10.4	6.1
	12.1	13.1
	15.0	11.6
	15.6	14.5
	18.5	23.2
	21.5	21.7
Motherboard and Processor	NXP® i.MX 8M Plus Quad ARM® Cortex® A53 1.6GHz	3.2

Component	Description	Power [W]
Storage	64GB eMMC TLC	0.76
RAM	4 GB	1.8
USB ports	3.0 Type A, each port	4.5
Memory card	Micro SD	1.0
Ethernet	RJ45, each port	0.5
Serial Port	RS232/422/485 (DB9M)	0.25

WARNING: Do not exceed 40 W for the total system configuration. Power consumption greater than 40 W can overpower the external and internal power supplies that can lead to component damage, or in extreme cases, electrical fires.

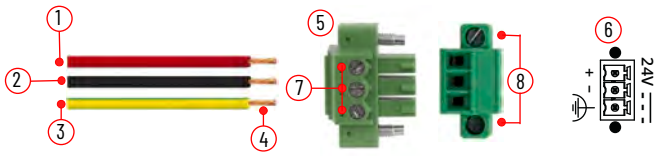
AVERTISSEMENT: Ne pas dépasser 40 W pour la configuration totale du système. Une consommation d'énergie supérieure à 40 W peut surcharger les alimentations externes et internes qui peuvent endommager les composants ou, dans des cas extrêmes, provoquer des incendies électriques.

Connect DC Power

Required Tools

- Adjustable torque screwdriver with M2 and M3 flat-blade screw bits.
- Wire stripper, cutter, and crimper tool.
- Cutting pliers.

DC power connector assembly



Terminal block cover kit

Item No.	Description	Note
1	DC+ (24V DC nominal)	1.5mm^2 (16 AWG) wire
2	DC- (0V DC nominal)	
3	Ground wire	
4	Stripped wire lenght	7mm (0.275 in)
5	Terminal block	-
6	Polarity symbol	-
7	Torque range to secure DC power wires	0.22...0.25 N•m (0.16...0.18 ft•lb)
8	Torque value to reinstall DC terminal block to operator panel	0.3 N•m (0.22 lb•in)
9	1 cable tie	-

Item No.	Description	Note
10	2 labels	-
11	Half cover with cable tie slot	-
12	Half closing cover	-

- Remove the DC terminal block (5) from the operator panel.
- Use wires not included, (1) (2) (3) with 1.5mm² (16 AWG) cross section with copper conductor certified for operation at least 75°C (167°F).

The color of wires should follow the local regulations.

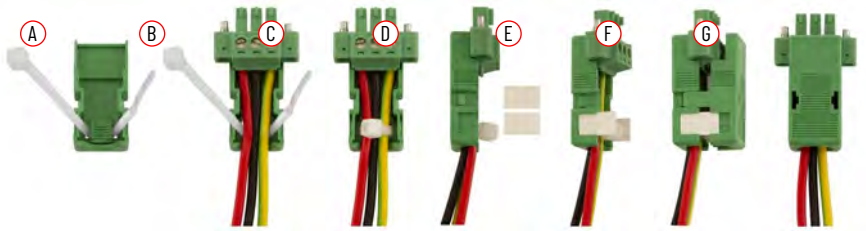
- Strip 7mm (0.275 in) the end of each power wire (4).
- Insert each stripped end into the DC terminal block and fix it with the corresponding screws (7) with 0.22...0.25 N•m (0.16...0.18 ft•lb) torque.
- Insert the cable tie (9) through the slots of the terminal block (11) connector clamp [step (A)].
- Slide the connector half with the attached tie onto the end of the DC terminal block [step (B)].
- Tighten the tie and remove the excess part [step (C)].
- Install the white labels (10) supplied with the terminal block cover kit [steps (D) (E)].

The white labels (10) can be used for identification or other information.

- Align and install the other connector (12) clamp half [step (F)] to complete the assembly [step (G)]

When installed correctly, both tabs of the clamp half lock into place.

Terminal block cover assembly



- Connect the DC terminal block (complete with cables and cover) to the Operator Panel chassis and fix it with the corresponding screws (8) with 0.3 N•m (0.22 ft•lb) torque.

WARNING: USB connectors not for use in hazardous locations. To use only for initial setup and maintenance.

AVERTISSEMENT: le connecteurs USB ne doit pas être utilisé dans des endroits dangereux. doit être utilisé pour la configuration initiale et la maintenance seulement.

ATTENTION: The earth ground connection to ground is mandatory. This connection is required for noise immunity, reliability, and Electromagnetic Compliance (EMC) with the European Union (EU) EMC Directive for CE marking conformance. This connection is required for safety by Underwriters Laboratory (UL).

- Apply power to the Operator Panel.
- LED (a) and LED (b) will light green.
- The operating system desktop will appear after few seconds.

Install the Factory-supplied metal retention plates to connect Ethernet cables

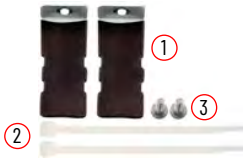
The system is provided with metal retention plates, screws and zip ties provided in the box. Their purpose is to support Ethernet cables after plug in the ports.

Tools required:

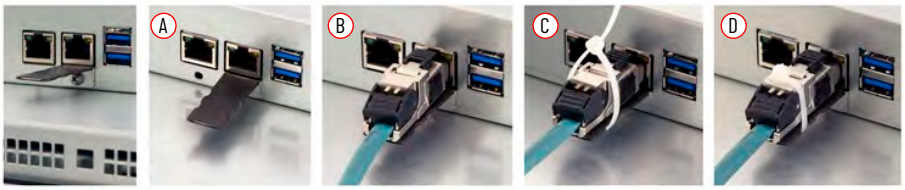
- Adjustable torque screwdriver with M3 Philips screw bit.
- Cutting pliers.

Metal retention kit

Item No.	Description
1	2 Metallic plates
2	2 M3 screws
3	2 Zip ties



- Position the metal retention plate (1) in front of the LAN port and fix it with the provided screw (2) with 0.22...0.25 N•m (0.16...0.18 ft•lb) torque [step (A)] .
- Insert the LAN cable in the LAN port [step (B)].
- Insert the zip tie around the LAN cable and the beveled edge of the plate (1) [step (C)].
- Tighten the tie (2) and remove the excess part [step (D)]



Notes:

Operation

Operating guidelines

Follow these operating guidelines for your operator panel.

When your operator panel is mounted in an enclosure:

- operator access is limited to the front of your operator panel, which includes the display and the touch screen.

IMPORTANT Access to components behind the panel where your operator panel is installed is restricted to authorized and properly trained personnel.

- keep the enclosure door closed during operation to minimize dust and other airborne contamination entering your operator panel. Open the door only for routine maintenance.

ATTENTION: Do **not** operate your operator panel with the covers removed. All covers are required to maintain its electromagnetic interference (EMI) shield.

- After you shut down your operator panel, do not apply power again until shutdown is complete.

IMPORTANT It is highly recommended, from cyber-security perspective, to physically protect the Operator Panel's I/O (i.e. Ethernet, Serial and USB ports, Reset and Factory Reset push buttons) from unauthorized access installing the OptixPanel in an enclosure.

Touch Screen Precautions

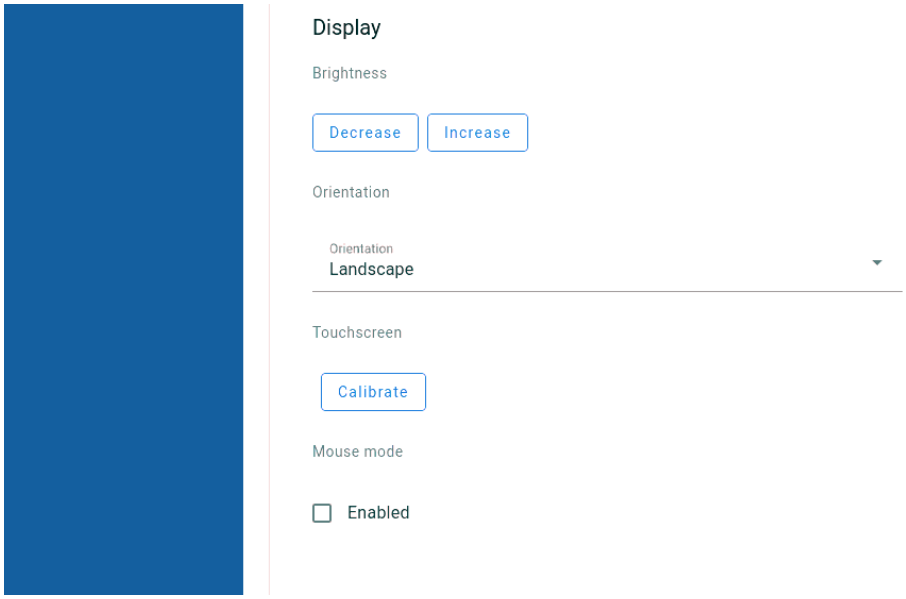
WARNING: Failure to follow these instructions can result in potential death, serious injury, or equipment damage.
Use of the LCD screen could result in a potentially hazardous outcome if the LCD screen darkens, is difficult to read, or the back light is not functioning properly. Do **not** use the LCD touch screen under these circumstances.
The design of the system must consider the possibility of the LCD screen or LCD touch screen to lose functionality, which can result in the inability to use, maintain, or change control of the system. The touch screen **cannot** be the single point of control of critical functions and is **not** intended to replace an E-stop. Design of the system must follow all applicable code and good engineering practice. Factors to consider include:

- the possibility of an unreadable LCD screen.
- the possibility of an inoperable touch screen.
- unexpected communication errors or delays.
- operator error in the control of the system.
- proper use of E-stops and other safety practices.

You must provide means to achieve a safe state during anomalies and verify that the system has adequate redundancy for critical functions.

Touchscreen calibration

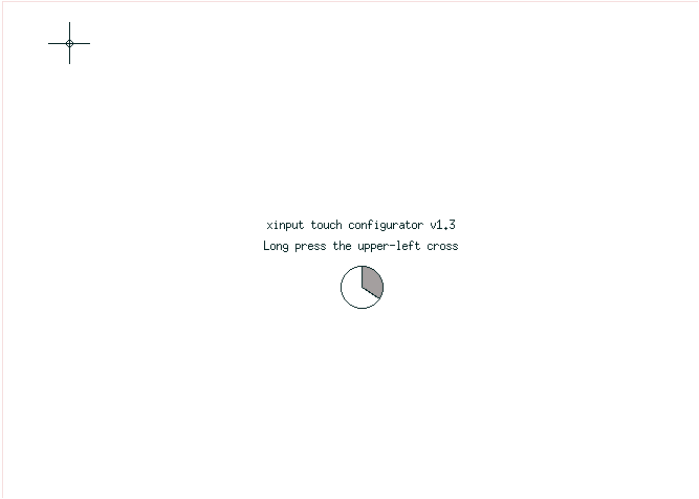
The calibration of the touchscreen is only possible via panel in the General Menu, under Display, and the option will not appear on the web version of the System Manager.



The calibration of the touchscreen is needed only for the Resistive Touchscreens, if your OptixPanel uses a Capacitive Touchscreen the Calibrate option will not be shown.

In order to Calibrate:

1. Place yourself in front of the panel and access the System Manager.
2. Navigate on the Display section in the General Menu.
3. Press Calibrate.



4. Follow the instructions on the screen and press on the Xs on the screen as they appear.

The new calibration parameters will be automatically saved as you exit the calibration procedure.

Restart / Factory reset

Note No.	Description
1	Restart button
2	Factory Reset button
3	Restart / Factory Reset LED
4	Power LED

Restart

Use this Restart button must be used when other options (use of keyboard / mouse) do not work.

Press the Restart button (1) to perform a restart of the system. The Restart / Factory Reset LED (3) illuminates red for a few seconds.

Table 6 - Power ON LED

LED	Color	Function
Power ON	Green	The system is powered on
	Red	The system is restarting

Factory Reset

The factory reset allows the total restoration of the firmware and factory settings with the deletion of all application data.

Note: HMI software licenses are maintained.

To perform factory reset please follow the steps:

1. Disconnect the power supply.
2. Press the Factory Reset button (2), power up the system and keep the button (2) pressed.
3. After a few seconds the Restart / Factory Reset LED (3) will show four blue blinks and then a steady green.
4. Keep the Factory Reset button (2) pressed.
5. When then Restart / Factory Reset LED (3) will start blinking blue faster the restore procedure will start.
6. Release the button and wait.
7. At the end the system restarts.

Table 7 - Restart / Factory Reset LED

LED	Color	Function
Restart / Factory Reset LED	Blue	Blinking blue when factory restore procedure is in progress.
	Off	Normal state.

Notes:

Configuration

Factory settings

Default Configuration

The devices can have one or two Ethernet interfaces, whose factory settings is shown in the following table.

Device type	Interface	IP address	Mask
2800S - OptixPanel Standard	Eth1: LAN	192.168.0.1	255.255.255.0
	Eth2: WAN	dynamically assigned by DHCP	
2800C - OptixPanel Compact	Eth1: LAN	192.168.0.1	255.255.255.0

Device configuration access is protected with a combination of username and password.

The default **username** is **admin**.

The default **password** is **admin**.

At the first access, you will be prompted to change the password. After the password changes a restart will be required.

The admin account allows to access the System Manager interface and is also the one to be used to transfer the Optix Application via FactoryTalk Optix Studio.

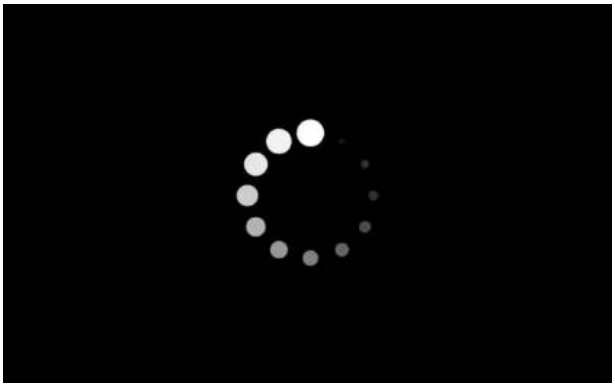
System Manager

Access the System Manager

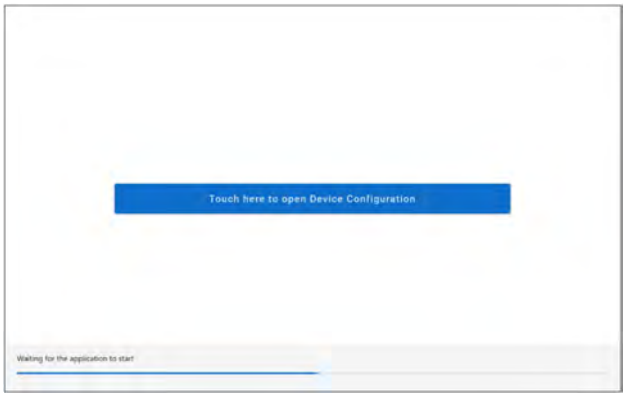
The device can be configured through the System Manager application, accessible locally from the device or remotely via any web browser.

Access from device

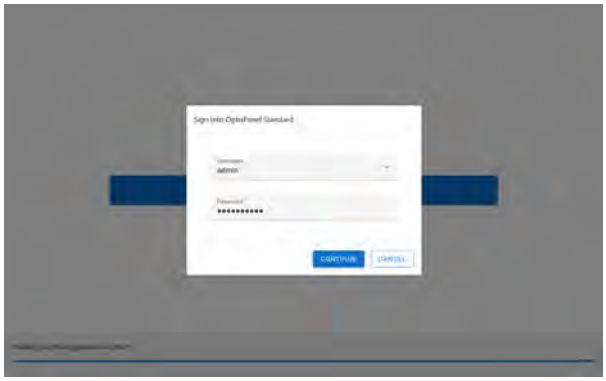
1. After it is powered on, the Device starts showing the boot logo.



2. Click on the blue button with the caption “Touch here to open Device Configuration”, that appears on the screen:



A popup for the login appears:



If it is the first time accessing the System Manager, you have to use the default credentials:

username: admin
password: admin

Then after the login, you will be required to change the password.

IMPORTANT Creating a strong and secure password can reduce the risk of cybercriminals guessing your password and accessing sensitive data.
For this reasons, the password must meet the following criteria:
- be at least 8 characters long.
- meet at least 3 of the following requirements: at least one uppercase character, at least one lowercase character, at least one numeric character, at least a symbolic character.

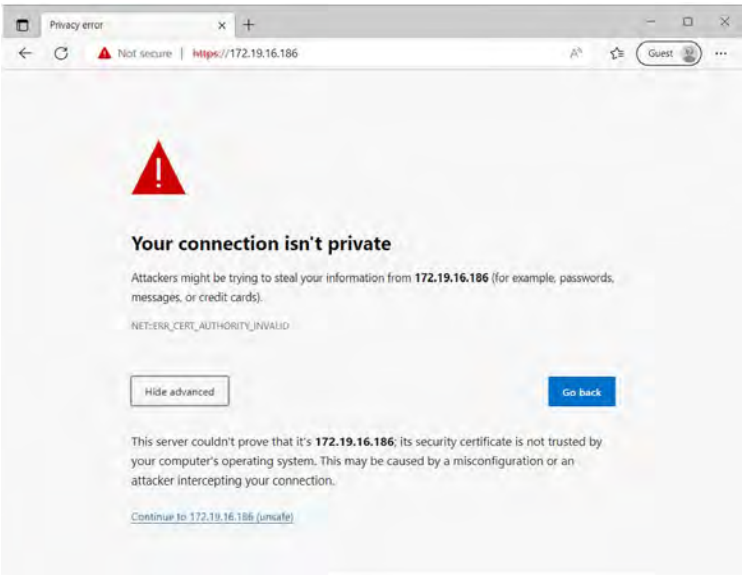
Given that a strong password makes the amount of time it takes to guess it exponentially longer, it's highly recommended the use of pass phrases longer than 8 characters.

From the second time on, you can access with the "admin" username and the new password, or with the User account (if activated by the Admin).

ATTENTION: Take note of the new password! Admin account is required to transfer the Optix Application via FactoryTalk Optix Studio. If you lose the password, you must restore the device to Factory Defaults, which deletes the Optix Application and system updates.

Access from a Browser

System Manager can also be reached remotely via Ethernet connection, by typing the device's IP address into a web browser window. See Factory settings for the Ethernet interface default configuration.



When you remotely access the system (not via Browser to System Manager), you may be warned that the connection is not private and the security certificate is not trusted. In this case, select the Advanced option and proceed.

To access the System Manager interface, you are prompted to authenticate. If it is the first time accessing the System Manager, you have to use the default Admin username and password, then you will be prompted for the password change.

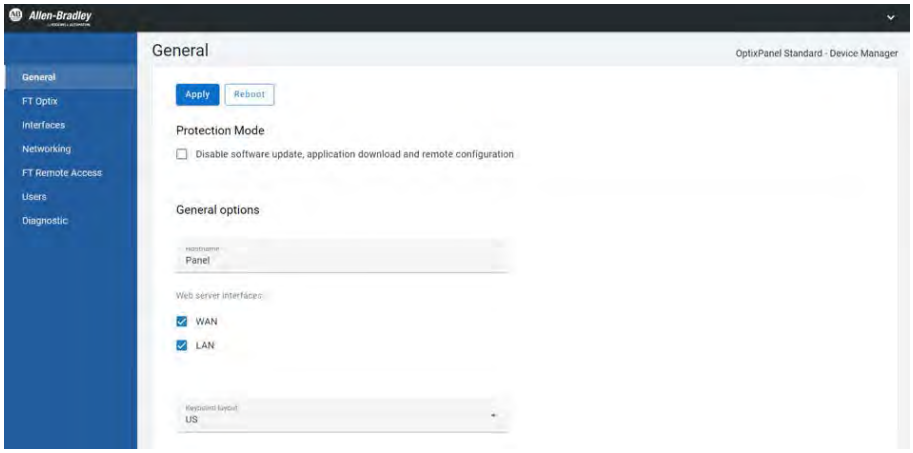
From the second time on, you can access with the Admin username and password, or with the User account (if activated by the Admin).

ATTENTION: Take note of the new password! Admin account is required to transfer the Optix Application via FactoryTalk Optix Studio. If you lose the password, you must restore the device to Factory Defaults, which deletes the Optix Application and system updates.

System Manager

The System Manager interface is divided into the following sections:

- General.
- FT Optix.
- Interfaces.
- Networking.
- FT Remote Access.
- Users.
- Diagnostic.



Apply the configuration to the device

To apply changes to the device it is enough to click the "Apply" button. A message will confirm the success of the operation. Depending on the options changed, the device will need to be restarted with the "Reboot" button.

General

General Options

Protection mode

When Protection Mode is enabled on your device, the security of the device is enhanced by disabling software updates, application downloads, and remote configurations. In this state, the device will reject the following actions:

- Interface updates: TCP/IP configuration (configuration method, network address, hostname), Ethernet Link configuration (link enable, speed, and duplex) and remote configuration requests via CIP.
- Firmware updates via USB or remotely through FactoryTalk Remote Access.
- FactoryTalk Optix application updates.

The device will still accept settings and reboot requests through the System Manager web interface, FactoryTalk Optix System Tags, and FactoryTalk Remote Access tools, which all require user authentication. This ensures that changes are only made by authorized administrators.

IMPORTANT	Protection Mode is disabled by default for all out-of-the-box products and after a factory reset. To reduce the surface of cyber-attacks is highly recommended to enable this option in a production environment, preventing unauthorized changes and potential security risks.

Hostname

The Hostname is a unique identifier that is assigned to the device. It is used to identify and communicate with the device over the network and can be used to configure or troubleshoot the device as needed. This name will be the device name visualized on the FactoryTalk Remote Access organization.

Web server interfaces

- WAN— Enable this option to allow access to the System Manager through the device's WAN port. This makes it easy for users to remotely manage and configure the device via the web interface.

- LAN—Enable this option to use the System Manager through the device's LAN port. This allows users to access the web interface for device management and configuration via the local network.

It is recommended to configure the options above to let the web server be only accessible from the strictly needed interfaces, to reduce surface exposure to cyber-attacks. Ideally, it should be only enabled when the configuration needs to be changed.

Keyboard layout

Configuration of the device's keyboard layout. This setting allows you to choose the appropriate layout for your region or language preferences, ensuring that the device recognizes the correct characters and key positions when you type. The available options are the US (United States), DE (Germany), and IT (Italy). Changing the keyboard layout will adjust the key mapping to match the standard keyboard layout for the selected country, enhancing your typing experience and reducing the likelihood of typing errors.

Boot

Show boot menu at startup

When enabled, display the button "Touch here to open Device Configuration" to access the System Manager when the device start.

To reduce the surface of cyber-attacks is highly recommended to disable this option in a production environment, preventing users from being able to access System Manager directly from the device.

Application startup delay

The default startup time of the application is 5 seconds. This includes the time it takes to visualize the loading progress bar and the button to access the device configuration (if enabled). By default, the startup delay is set to 0, meaning the application will start up after 5 seconds. If you set a different delay, the startup time will be 5 seconds plus the value set in the Application startup delay (seconds) field.

Display

Brightness

Increase or decrease the screen brightness in 10% steps.

Orientation

Sets the orientation of the display: Landscape, Portrait, and Portrait (flipped).

This combo box allows you to change your device's screen orientation according to your viewing preferences or setup requirements. By default, the screen orientation is set to Landscape, which displays content horizontally. There are two additional alternatives available: Portrait and Portrait (flipped). Portrait mode presents content vertically, while the Portrait (flipped) option rotates the vertical orientation by 180°, which can be helpful in unique mounting situations or for accessibility purposes.

Calibrate

Turn on this option to start the display calibration process, which enhances the touchscreen's precision. When activated, a small red X will show up on the screen for you to tap. After

tapping the red cross, a green check mark will appear to confirm success. Do this four times (4 red X in total). After completing all four, the screen is calibrated for better touch accuracy.

Available only on devices with resistive touchscreen, not available via browser.

Mouse mode

This check box is specifically designed for resistive touchscreen displays. When enabled, it provides users with the ability to select text by dragging, rather than scrolling.

Only available for device with resistive displays.

Date and time

Time synchronization mode

This combo box enables you to configure your device's date and time settings. Select *Manual* to set the date and time manually or choose *Auto (Remote NTP server)* to synchronize the date and time automatically using a remote *Network Time Protocol (NTP)* server.

The device can be configured to automatically adjust the date and time from a remote NTP server and provide the same service to connected devices (local NTP server).

Remote NTP Server

Visible only when the Time synchronization mode is Auto (Remote NTP server), allowing to set the IP address of the NTP server.

Date/Time

Enabled only when the Time synchronization mode is Manual, allowing to set the current Year/Month/Day and Hour/Minute.

Time zone

Allow to set the time zone that will affect the current time.

Local NTP server interfaces

The Local NTP server interfaces check boxes activate the local NTP server on the specified interface (WAN and/or LAN), maintaining accurate timekeeping across your network. Selecting at least one interface will enable the local NTP server to listen for connections on the standard UDP port 123. Selecting no interface will disable the local NTP Server.

External storage

USB Enabled

This check-box allow to activate/deactivate USB ports and external devices connected to them.

System information

This section shows essential details about your device, such as the Product Name, the Firmware version, the OS version, the System Manager version, and the FactoryTalk Remote Access runtime version. This information is useful for troubleshooting and maintenance.

Please note that both OS version and System manager version are dependent on the Firmware version.

Legal notices

The Legal Notices section of the device manual has two types of licenses: Main Licenses for commercial software and Open-Source Licenses for open-source software.

FT Optix

Options for FactoryTalk Optix Runtime and its entitlements.

Configuration

Run FactoryTalk Optix update server at system startup

When this setting is enabled, the FactoryTalk Optix update server activates at device startup, allowing the download and update of FactoryTalk Optix applications using FactoryTalk Optix Studio. If not enabled, downloading and updating FactoryTalk Optix applications on the device is not possible.

Load only password protected applications

When this setting is enabled, will be possible to load and execute on the device only password protected applications.

Application

Application name

This section displays the name of the project that has been loaded onto the device.

FT Optix Runtime version

This section displays the version of the FactoryTalk Optix Studio Runtime that was used to develop the loaded project. The FactoryTalk Optix Studio Runtime provides a development environment for creating and testing HMI projects before deploying them to the device. The version number is important for ensuring compatibility between the project and the runtime environment and may be useful for troubleshooting issues related to project development and deployment.

Load application from USB

The Load button allow to transfer an FT Optix Application from a USB Memory to the OptixPanel. The procedure requires following steps:

- Fom FT Optix Studio, you select Save > Export > FactoryTalk Optix Application choosing OptixPanel Standard/Compact as target.
- Define a password for the package.
- Transfer the package to an USB Memory.
- Plug the USB Memory into an available USB port.

- Press the "Load" button.
- In the pop-up, type-in the previously defined password.

Note: optionally it's possibile to select "Delete all application files". This is useful if you are updating an application and you want to clear up all historical data of the project (dataloggers db, persistent db...).

Delete current application

The Delete button allow to delete the current application stored on the device.

Entitlement

Activate a new entitlement

OptixPanel comes out-of-the-box with a pre-activated Entitlement with a certain size in token. It's possible, going to the Rockwell commerce portal, to purchase an upgrade for next size up.

The purchased Entitlement upgrade, then will be provided through the FactoryTalk Design Hub and can be assigned to your own organization. On FactoryTalk Optix section of FactoryTalk Design Hub portal, which is part of, under Entitlements you will then find the Entitlement Key to be used for the online or offline activation.

The Activate a New entitlement section provides two options for activating an entitlement upgrade on the device: Online and Off line.

Online

- Insert the entitlement key: insert here your entitlement key when the device has the access to the Internet. A popup with the activation confirmation (or a description of the error that occurred) will appear.

Offline

- Export an entitlement activation request for this device to a file: export a .req file that can be used to activate the entitlement using the Entitlement Manager on a operator panel connected to the internet. After activating the entitlement, an entitlement .lic file is generated and is required to complete the offline entitlement activation on the device.
- Install an already activated entitlement file into this device: import the .lic file generated via Entitlement Manager to install the entitlement on the device. The System Manager will browse files searching for a .lic file to install, and a popup will appear confirming the activation or indicating any errors that occurred during the process.

Installed entitlements

The Installed entitlements section shows the already present entitlement keys. By pressing the button Details will be possible to see all the entitlement details.

Interfaces

Section to set the device's interfaces.

Eth2: WAN

Mac address

The MAC address section displays the unique identifier for the Eth2 port of the device. This address is essential for network communication and device identification purposes.

Obtain IP configuration automatically

The option for the Eth2 (WAN) device port allows the device to automatically obtain an IP address, subnet mask, default gateway, and DNS server address from a DHCP server on the network. When enabled, the device will continuously broadcast a DHCP request and receive an IP configuration from the DHCP server, ensuring that the device is always properly configured for network communication. In case you need to specify a fixed IP, simply unmark the check box and fill in the form below.

If the WAN port is configured in DHCP and the DHCP server must provide updated parameters compared to the current ones, a restart is required so that these parameters can be recovered and used correctly.

Eth1: LAN

Mac address

The MAC address section displays the unique identifier for the Eth1 port of the device. This address is essential for network communication and device identification purposes.

Obtain IP configuration automatically

The Obtain IP configuration automatically checkbox option for the Eth1 (LAN) device port enables the automatic acquisition of an IP address, subnet mask, and default gateway from a DHCP server on the local network.

More common for the LAN interface is to use a fixed IP and, in this case, un-mark the check box, specify the IP with the mask, and click the Add button. The IP will be added to the list.

Please note that the LAN interface supports also multiple IPs. To add additional IP, simply repeat the above sequence. To delete an IP address from the list, select the IP and hit the Remove button. All the classes corresponding to the added IP/ mask couples will be reachable from the VPN through FactoryTalk Remote Access.

Serial Port

This section allows setting up the serial port mode for the usage from FactoryTalk Optix application or FactoryTalk Remote Access serial pass-through. Click on the combo box to access the available options. The options are the following:

- RS-232C
- RS-422
- RS-485

Networking

VPN

In this section, it is possible to choose which networks are reachable when establishing a VPN through FactoryTalk Remote Access.

The FactoryTalk Remote Access entitlement of OptixPanel Compact support Point-to-point virtual Ethernet adapter only.

Network interfaces

- WAN—Select this option to be able to reach via VPN the devices on the subnet of the Eth2 port.
- LAN—Select this option to be able to reach via VPN the devices on the subnet of the Eth1 port.

- Point-to-point virtual Ethernet adapter—Select this option to be able to reach via VPN the device only.
- Reserve static IP pool for VPN connections—By enabling this option, it becomes possible to define one or more IP pools that will be used to dynamically assign the IP address to the remote PC where the FactoryTalk Remote Access tools are running.

ATTENTION: The IP addresses included in the pool are not subject to any check, it is your responsibility to ensure that there is no conflict with WAN or LAN subnets.

FT Remote Access

Options for connecting the device to a FactoryTalk Remote Access organization.

Connection

The Connect/Disconnect button lets you manage the connection/disconnection of the device to/from the FactoryTalk Remote Access Network. By pressing Connect, if the device has never been registered to an FactoryTalk Remote Access domain, the ID and Password will appear to be used for the registration.

The only way to unregister a device from its FactoryTalk Remote Access organization is to delete the device from the FactoryTalk Remote Access manager. Then the ID and Password will reappear to be used for a new registration.

Status

This section displays the connection status to the FactoryTalk Remote Access services. Possible statuses include:

- Disconnected from the FactoryTalk Remote Access infrastructure.
- Connecting.
- Connected to the FactoryTalk Remote Access infrastructure.
- Disconnecting.
- Protocol error.
- A newer version of firmware is required.
- This firmware version is not supported by the Server.
- Device registration error.

Configuration

This section outlines the configuration parameters required for establishing a connection to a FactoryTalk Remote Access organization.

Availability mode

- Always on—Keeps a non-stop link with FactoryTalk Remote Access services.
- Reconnect to server on reboot if left connected - If turned on, this option reconnects to the server automatically after restarting the device, if it was connected before.

Connection port

Select the appropriate port for connecting to the FactoryTalk Remote Access organization's servers. The available options include Auto (automatic selection), 80, 443, or 5935.

Server

Determine whether the FactoryTalk Remote Access network to which the device should connect.

- Public: this is the default value and means that the device will connect to the public network infrastructure hosted by Rockwell Automation.
- Legacy: means that the device will connect to the legacy public network infrastructure as known as Ubiquity.
- Private: means that the device will connect to a private network infrastructure (preview).

Proxy configuration

Configure the connection parameters for the FactoryTalk Remote Access organization if a proxy is required. The available options for proxy types are: None (no proxy), SOCKS5, and HTTP. Choose the option that best aligns with your network requirements and security policies.

Users

Accounts

This section allows you to:

- Change the password for the Username selected
- Enable the User account
- Change the password for the Username selected

Passwords for both Admin and User accounts must meet the following requirements:

- must be at least 8 characters long.
- must meet additionally at least 3 of the following requirements:
  - at least one uppercase character.
  - at least one lowercase character.
  - at least one numeric character.
  - at least a symbolic character.

Enable the User account

After the first configuration of the device, you can enable the account called user by selecting it from the menu Username and assigning a password.

The password assigned to this account can then be replaced by the end user. If necessary, the admin may reset the user's password at any time by disabling the user account.

The user account can be used to access the System Manager from the device or from the Browser.

The available options to the user account are as follows:

- General options, without the option Web server interfaces.
- Display brightness.
- Mouse mode.
- Date and Time, without the option Set local NTP server interfaces.
- System information and Legal notices.
- Entitlements (activate and Details).
- WAN.
- FactoryTalk Remote Access, without Connection status, Server, and Availability mode.

- Password, for changing the user's login password.
- Ping.
- Export diagnostic logs.

IMPORTANT In case of User's password loss. the Admin user can change/reset it.

Security Policies

Automatic session lock

Define how many minutes the System Manager session will be kept active.

When timed out, a popup with 30 second countdown will appear allowing the user to avoid the session being closed.

Diagnostic

The Diagnostic section provides tools for troubleshooting and identifying issues with the device. This section includes two options: Ping and Export Diagnostic Logs.

Ping

The ping option allows the user to run the ping command to an IP address specified in the Network address box. This tool tests network connectivity and can help identify issues with network communication. The result of the ping command will be the log file SystemManager_log_*.txt available in the Export logs section.

Logs

The Export all button, allows the user to download files containing activity logs. These logs provide valuable information for diagnosing issues and identifying the root cause of problems with the device. It is possible to download a file containing logs that can be reviewed and analyzed for troubleshooting purposes.

Logs can be exported only via Browser. This feature is not available when the System Manager is opened locally from the device.

Update the Device

Firmware update

The firmware is a collection of software components whose versions are available in the System Information section, located at the bottom of the General screen. The firmware image can be updated remotely through FactoryTalk Remote Access or locally by using a USB Memory.

Local update

The firmware image is provided in the format of a single file that works as a "container" for the components to be updated. The container files are identified by the extension .img and for convenience, firmware images are available on the Product Compatibility and Download Center (PCDC) portal.

Firmware update is supported only via USB Memory with file systems FAT32 or exFAT.

MicroSD Cards are not supported.

IMPORTANT The process takes approximately 2 minutes to complete. During this time, it's important NOT to turn off the device or remove power.

To execute the update, copy the proper file to the root folder of an empty USB Memory, plug the USB Memory into the device's USB port, and reboot.

While restarting, the device detects the USB Memory with the firmware image file and checks if it's valid, then the update procedure starts: the "POWER" led will stay steady green while the "Update in progress" message is displayed on the screen.

The update is completed when, after the device reboot, the "FACTORY RESET" led starts rapidly blinking in blue, alternatively with the "POWER" led blinking in green, then the "FACTORY RESET" led turns off and the "POWER" led will stay steady green.

Remote update

Alternatively to local update via USB Memory, it is possible to update the device remotely, transferring the firmware image through the FactoryTalk Remote Access.

This procedure requires that the device has been registered within a FactoryTalk Remote Access organization. See the FactoryTalk Remote Access user manual to learn how to get access to FactoryTalk Remote Access Manager and how to register a device in an organization.

IMPORTANT The process takes approximately 2 minutes to complete. During this time, it's important NOT to turn off the device or remove power.

Using the FactoryTalk Remote Access manager web interface, select the device from the Domain view and click on the Device Access button, paying attention to selecting the Advanced mode.

When the FactoryTalk Remote Access Tools window opens, select the Explorer tab on the left menu and copy the firmware image from the local system to the folder shown in the table.

Local System folder	Remote Device folder
...\<FirmwareImage>.img	\persistent\data\Updates\<FirmwareImage>.img

After copying is complete, restart the device by using the Restart button available in the left menu of the FactoryTalk Remote Access Tools window.

While restarting, the device detects the Firmware image file and checks if it's valid, then the update procedure starts: the "POWER" led will stay steady green while the "Update in progress" message is displayed on the screen.

The update is completed when, after the device reboot, the "FACTORY RESET" led starts rapidly blinking in blue, alternatively with the "POWER" led blinking in green, then the "FACTORY RESET" led turns off and the "POWER" led will stay steady green.

Restore the Device to Factory Defaults

Restore to Factory Defaults

This procedure allows restoring the firmware to the original factory defaults which means also that if the firmware has been updated, given that the factory default will be restored, this will result in a downgrade.

The restore procudure will not remove:
- FactoryTalk Optix entitlements.
- The link to FactoryTalk Remote Access organization. This means that is not possible to change the Organization/Domain doing the restore to factory defaults as a protection against unwanted Organization/Domain change.
- Contents of microSD card or USB Memory plugged on the device.

IMPORTANT Before proceeding, make sure to back up any important data stored on the device. This procedure erases all user settings, configurations, and data like the FactoryTalk Optix application and the related FactoryTalk Optix runtime.

IMPORTANT The process takes approximately 2 minutes to complete. During this time, it's important NOT to turn off the device or remove power.

To restore your device to its factory defaults, follow the steps below:

1. Power Off the device.
2. Power On the device while pressing and holding the "FACTORY RESET" pushbutton.
3. Keep pressing the pushbutton while the "FACTORY RESET" led blink in blue 4 times.
4. Stop pressing the pushbutton when the "POWER" led become steady green.

After a few seconds, the "FACTORY RESET" led starts rapidly blinking in blue, alternatively with "POWER" led that blink in green: this means the restore is in progress.

The restore is completed when the "POWER" led turns off and the "FACTORY RESET" led will become steady blue, then the "FACTORY RESET" led turns off and the "POWER" led will stays steady green.

External storage devices

The device allows the use of USB Memory or microSD cards as storage devices.

While USB Memory is usually used as temporary storage (file transfers, logs, system updates), microSD Cards, on the other hand, can be used as permanent storage such as a memory expansion of the device (such as th elocation of the project's Embedded Database).

For these reasons, different file systems are supported:

Storage type	File system supported	Usage
USB Memory	FAT32	Suggested if used as temporary storage
	exFAT	
microSD Card	FAT32	
	exFAT	
	EXT4	Suggested if used as permanent storage

EXT4 is natively supported on Linux OS. For this reason, reading a microSD Card with an EXT4 file system on Windows OS, it's required a third-party tool like Ext2Explore.

To access external storage devices through an Optix Application, use the system path shown in the following table:

Storage type	Folder
USB Memory	/storage/usb1 /storage/usb2 /storage/usb3 ... is accessed with progressive numbers
microSD Card	/storage/sd1

Clean the Operator Panel

For optimal performance, it is important to clean the operator panels periodically.

To maintain your operator panel it is important to clean the display, vent holes, and to remove grease or paint.

To avoid electrostatic charge on the system, use only specific EPA zone cleaning products and damp cloths. Before to reassemble the system into the equipment, ensure that there are no changes in the mechanical or electrical features, the seal ensures the defined protection grade, the fixing tools are in good conditions and ensure the right tightening. For battery substitution refer to the system's User Guide. If any component is in poor conditions, immediately contact support.

Clean the Integrated Display

Perform the following steps to clean a display.

1. Disconnect power from the operator panel at the power source.

ATTENTION: Since the display is a touchscreen, it is possible for screen objects to activate equipment wash-downs if the operator panel is turned on.

2. Clean the display with a mild soap and a clean sponge or a soft cloth.

ATTENTION: Use of abrasive cleansers, solvents and high-pressure washes can damage the display window. Do not scrub or use brushes.

3. Dry the display with a chamois or moist cellulose sponge to avoid water spots.

Clean the Air Openings and Heatsinks

Perform the following steps to clean the operator panel.

1. Disconnect power from the operator panel at the power source.
2. Disconnect all peripheral devices from the operator panel.
3. Vacuum dust and debris from all air openings on the displays, and from any heats-inks on the chassis. Remove stubborn dirt with a mild detergent and soft cloth.

Remove Paint and Grease from the Bezel

Perform the following steps to remove paint and grease from the bezel of operator panels that are properly mounted in IP65 enclosures.

1. Remove paint splashes and grease by rubbing lightly with isopropyl alcohol.

ATTENTION: Make sure that the isopropyl alcohol does not come in contact with the equipment labels. Alcohol can cause the label printing to smear.

2. Use a mild soap or detergent solution to remove residue.
3. Rinse with clean water.

Notes:

Troubleshooting

Display Troubleshooting

The following table lists typical problems that are possible with the integrated display. It contains symptoms and possible actions to correct a problem.

Table 8 - Display troubleshooting

Symptom	Action
Screen is blank	Verify that the power cord is connected.
	Replace the suspected faulty cable or power cord.
	Have the monitor serviced.
Picture is scrambled	Check the tightness of the position screws, test the machine on a table far from the electric panel
Picture is not clear	Check the tightness of the position screws, test the machine on a table far from the electric panel, check the grounding
Applications appear blurry	Be sure to have the last operating system and runtime version installed
	Check the tightness of the position screws, test the machine on a table far from the electric panel, check the grounding
Image is not stable	Check the tightness of the position screws, test the machine on a table far from the electric panel, check the grounding
Screen jitter or noisy video	Check the host operator panel and monitor grounding.

Ship or Transport the operator panel

If you must ship the operator panel via common carrier or otherwise transport it to another location for service or any other reason, you must place it in its original packing material.

IMPORTANT Do not ship or transport the operator panel when it is installed in a machine, panel, or rack. To avoid damage to the operator panel, you must uninstall the operator panel and place it in its original packing material before you ship it. Rockwell Automation is not responsible for damage to a operator panel that is shipped or transported while installed in a machine, panel, or rack.

Dispose of the operator panel

At the end of its life, collect the operator panel separately from any unsorted municipal waste.

You cannot dispose of operator panel equipment like other waste material. Most operator panels and monitors contain heavy metals that can contaminate the earth. Therefore, check with local health and sanitation agencies for ways to dispose monitor equipment safely.

When a storage drive is part of what you plan to dispose, then erase any data on it permanently or destroy the drive before it is disposed.

Notes:

Replace components

OptixPanel™ operator panels have replacement parts and upgrade accessories. This chapter explains how to replace or add these components to the PCs.

IMPORTANT Access to internal components of the operator panel is restricted to qualified and properly trained personnel.

Replacement parts

Review the specifications of a new component before you install it to verify that it is compatible with the operator panel. Record the model, serial number, and any other pertinent information of new components for future reference.

IMPORTANT We recommend that you use only Allen-Bradley® approved replacement parts.

Voltage precautions

The operator panels contain line voltages. Disconnect all power to the operator panel before you install or remove components.

Electrostatic Discharge Precautions

ATTENTION: Electrostatic discharge (ESD) can damage static-sensitive devices or microcircuitry:
- Disconnect all power before you work on the operator panel as detailed in Voltage Precautions.
- Observe all proper packaging and grounding techniques to help prevent damage.

Follow these ESD precautions:
- Transport the operator panel and replacement parts in static-safe containers, such as conductive tubes, bags, or boxes.
- Keep electrostatic-sensitive parts in their containers until they arrive at the designated static-free work area.
- Cover the designated work area with approved static-dissipating material:
  - Use an anti-static wrist strap that is connected to the work surface.
  - Use properly grounded tools and equipment.
- Keep the designated work area free of non-conductive materials, such as ordinary plastic assembly aids and foam packing.
- Avoid contact with pins, leads, or circuitry.
- Always hold components with a printed circuit board (PCB) by its edges and place it with the assembly side down.

Pre-configuration

IMPORTANT Before you install hardware or perform maintenance procedures that require access to internal components, we recommend that you first back up all data to avoid loss.

ATTENTION: Make sure to read and understand all installation and removal procedures before you configure the operator panel hardware.

Follow these steps before you remove the operator panel cover or replace a hardware component.

1. Shut down the operator panel and all peripherals that are connected to it.
2. To avoid exposure to high energy levels, disconnect all cables from power outlets. If necessary, label each cable to expedite reassembly.
3. Disconnect all peripheral cables from the I/O ports.
4. Loosen the mounting screws and remove the operator panels from its mounting.

Post-configuration

Follow these steps after you install or replace a hardware component.

1. Reinstall the operator panel to its mounting.
2. Tighten the mounting screws.
3. Reinstall any peripherals and system cables that were previously removed.
4. Reconnect all external cables and power to the operator panel.
5. Turn on the main power switch or breaker.

Remove the cover

To install, replace or upgrade internal operator panel components, you must first remove the cover.

Tools required:

- Torx screwdriver T7
- Hexagonal 5 mm box spanner

1. Follow the steps for Pre-configuration.
2. Remove the two columns (1) indicated in Figure 16.

Figure 16 - Removing the cover [OptixPanel Standard]

3. On the side of the system remove the two fixing screws (2) of the back cover.

4. Remove the cover.
5. After you install, replace, or upgrade internal operator panel components, perform the steps in Reinstall the cover.

Backup Battery Replacement (CR2032)

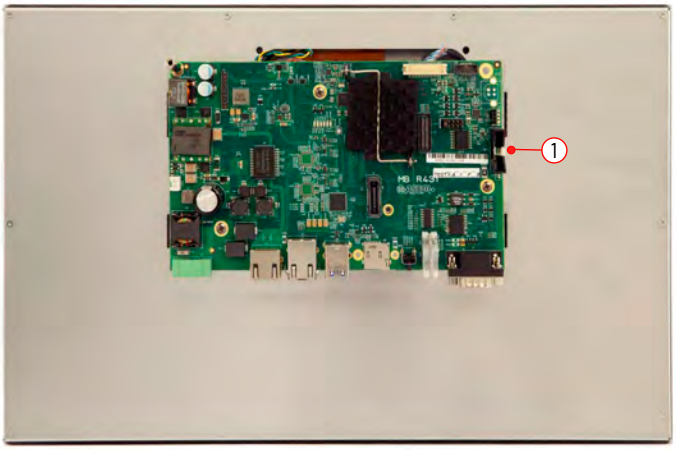
IMPORTANT Battery replacement requires work near static-sensitive equipment. Therefore, only service personnel must replace it.

All OptixPanel operator panels use nonvolatile memory that requires a real-time clock (RTC) CR2032 lithium battery to retain system information when power is removed.

This battery must be replaced during the life of the operator panel. The battery life depends on the amount of time the operator panel is on (on-time).

Follow these steps to replace the RTC battery.

1. Locate the backup battery position (1).



No.	Description
1	Battery slot

2. Remove the battery and replace it with one of the same model (CR2032).

3. Replace the battery so the positive polarity side faces the locking tab.

4. Follow the steps in Post-configuration.
5. After you install, replace or upgrade internal operator panel components, perform the steps in Reinstall the cover.

Reinstall the cover

To reinstall the cover perform the following steps

Tools required:
- Torx screwdriver T7
- Hexagonal 5mm box spanner

1. Reinstall the cover.
2. Reinstall the two columns (1) indicated in figure.
3. On the side of the system reinstall the four fixing screws (2) of the back cover.

Figure 17 - Reinstall the cover

4. Follow the steps for Post-configuration.

Micro SD card installation/ removal

No.	Description
1	Micro SD card SLOT.

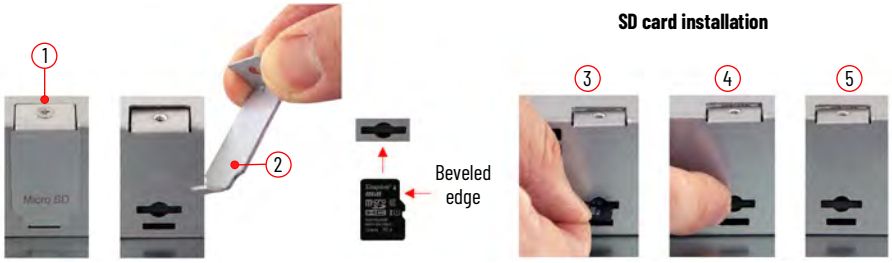
ATTENTION: Potential data loss. Do not remove the memory card while data is being accessed. Data on memory card is lost if you attempt to remove it when the system is accessing its data.

To access the Micro SD slot perform the following steps.

Tools required:
- Phillips screwdriver.

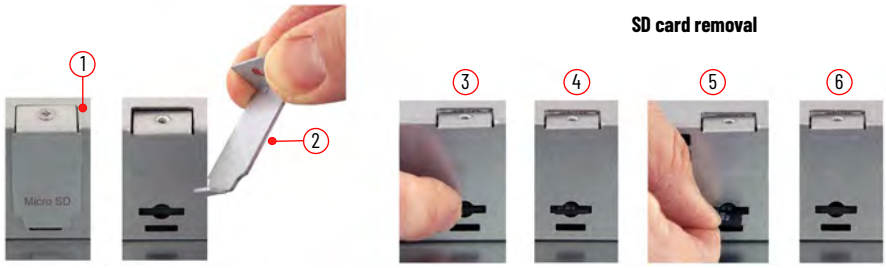
Micro SD card installation.

1. Turn off the operator panel and remove all electrical power.
2. With a Phillips screwdriver, unscrew the M3x6 screw (1).
3. Remove the SD slot cover (2).
4. Insert the Micro SD card into the appropriate slot (3). Pay attention to the beveled edge.
5. Push the (4) Micro SD card all the way (5).
6. Reinstall the SD slot cover (2) and fix it with the screw previously removed (1).
7. Reconnect electrical power and turn on the operator panel.



Micro SD card removal

1. Turn off the operator panel and remove all electrical power.
2. With a Phillips screwdriver unscrew the M3x6 screw (1).
3. Remove the SD slot cover (2).
4. Push (3) and release (4) the Micro SD card from the slot. The Micro SD card is now released.
5. Extract the Micro SD card (4) (5).
6. Reinstall the Micro SD slot cover (2) and fix it with the screw previously removed (1).
7. Reconnect electrical power and turn on the operator panel.



Install the Factory-supplied metal retention plates to connect Ethernet cables

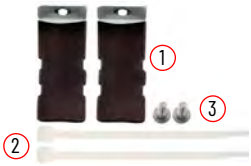
The system is provided with metal retention plates, screws and zip ties provided in the box. Their purpose is to support Ethernet cables after plug in the ports.

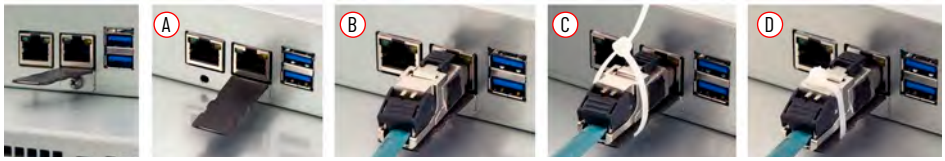
Tools required:
- Adjustable torque screwdriver with M3 Phillips screw bit.
- Cutting pliers.

1. Position the metal retention plate (1) in front of the LAN port and fix it with the provided screw (2) with 0.22...0.25 N•m (0.16...0.18 ft•lb) torque [step (A)] .
2. Insert the LAN cable in the LAN port [step (B)].
3. Insert the zip tie around the LAN cable and the beveled edge of the plate (1) [step (C)].
4. Tighten the tie (2) and remove the excess part [step (D)].

Metal retention kit

Item No.	Description
1	Metallic plates (qty: 2)
2	M3 screws (qty: 2)
3	Zip ties (qty: 2)





Notes:

Rockwell Automation Support

Use these resources to access support information.

Technical Support Center	Find help with how-to videos, FAQs, chat, user forums, Knowledgebase, and product notification updates.	rok.auto/support
Local Technical Support Phone Numbers	Locate the telephone number for your country.	rok.auto/phonesupport
Technical Documentation Center	Quickly access and download technical specifications, installation instructions, and user manuals.	rok.auto/techdocs
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes.	rok.auto/pcdc

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Waste Electrical and Electronic Equipment (WEEE)

At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental compliance information on its website at rok.auto/pec.

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