EMKO

PROOP Quick Start Guide

Preface

PROOP, is designed to provide interaction between the user and the automation systems based on industrial PLC systems. This document will be helpful the user to install and connect PROOP.

- Before begin the installation of this product, please read the instruction manual.
- For the information of PROOP Builder software and installation, refer to the PROOP Builder user manual.
- The contents of the document may have been updated. You can access the most updated version at www.emkoelektronik.com.tr

⚠	This symbol is used for safety warnings. User must pay attention to these warnings.

General Features

Models	PROOP 7'' SERIES			
	PROOP-7L	PROOP-7L.E	PROOP-7C	PROOP-7C.E
Display Type	7" wide TFT LCD			
Display Colors	260K colors			
Resolution	800 x 480			
LCD Backlight	LED Backlight			
Touch Method	Resistive Analog			
Luminance(cd/m^2)	300			
Backlight life(hours)	min. 50000 hours at 25°C			
MCU	ARM Cortex-A7, 528Mhz			
Flash Memory	4 GB			
RAM	512 MB DDR3 SDRAM			
Buzzer	>=85 dB			
USB Client	1x USB 2.0			
USB Host	1x USB 2.0			
Seri Com-2	RS-485 (Terminal)			
Seri Com-3	RS-232 (Terminal)			
Seri Com-4	RS-232 (DB-9 Socket)			
Ethernet	N/A	10/100 Mbps	N/A	10/100 Mbps
Digital Inputs	N/A		4x Digitals	
Digital Outputs	N/A		4x Digitals	
Analog Inputs	N/A			
Analog Outputs	N/A			
Real time clock (RTC)	Built in			
Operating Voltage	18...30Vdc			
Power Consumption	6W			
RTC Battery	CR2032 button cell lithium battery, 3V(removable)			
RTC Battery Life	5 years			
Operating Temperature	0...50°C			
Storage Temperature	-20...60°C			
Operating Humidity	0...90%RH (non condensed)			
Dimensions	206 x 152 x 50 mm			
Panel Cut-out	196 x 142 mm			
Weight	700 g			

Models	PROOP 10'' SERIES				
	PROOP-10L	PROOP-10L.E	PROOP-10C	PROOP-10C.E	PROOP-10P
Display Type	10'' wide TFT				
Display Colors	16M colors				
Resolution	1024 x 600				
LCD Backlight	LED Backlight				
Touch Method	Resistive Analog				
Luminance(cd/m^2)	270				
Backlight life(hours)	min. 50000 hours at 25°C				
MCU	ARM Cortex-A9, 800Mhz				
Flash Memory	4 GB				
RAM	512 MB DDR3 SDRAM				
Buzzer	>=85 dB				
USB Client	1x USB 2.0				
USB Host	1x USB 2.0				
Seri Com-2	RS-485 (Terminal)				
Seri Com-3	RS-232 (Terminal)				
Seri Com-4	RS-232 (DB-9 Socket)				
Ethernet	N/A	10/100 Mbps	N/A	10/100 Mbps	10/100 Mbps
Digital Inputs	N/A		5x Digitals		
Digital Outputs	N/A		4x Digitals		
Analog Inputs	N/A				2x 4...20mA
Analog Outputs	N/A				2x 4...20mA
Real time clock (RTC)	Built in				
Operating Voltage	18...30Vdc				
Power Consumption	8W				
RTC Battery	CR2032 button cell lithium battery, 3V(removable)				
RTC Battery Life	5 years				
Operating Temperature	0...50°C				
Storage Temperature	-20...60°C				
Operating Humidity	0...90%RH (non condensed)				
Dimensions	278 x 200 x 50 mm				
Panel Cut-out	265 x 186 mm				
Weight	1300 g				

Dimensions

PROOP 7'' Series

206 mm

152 mm

50 mm

8 mm

PROOP 10'' Series

278 mm

200 mm

50 mm

8 mm
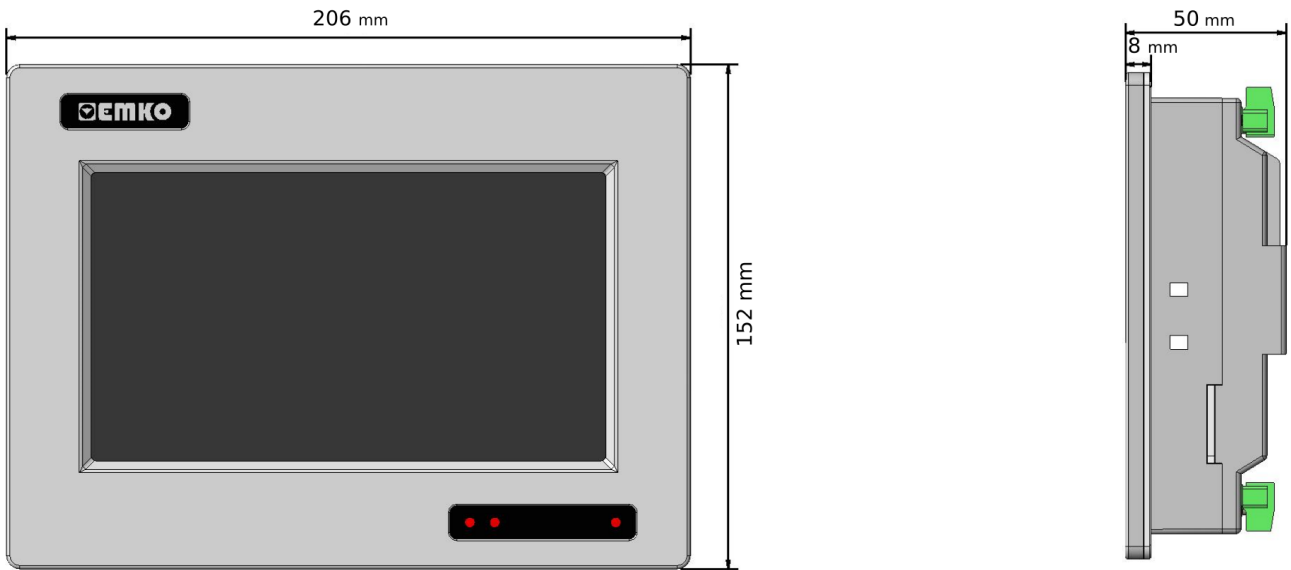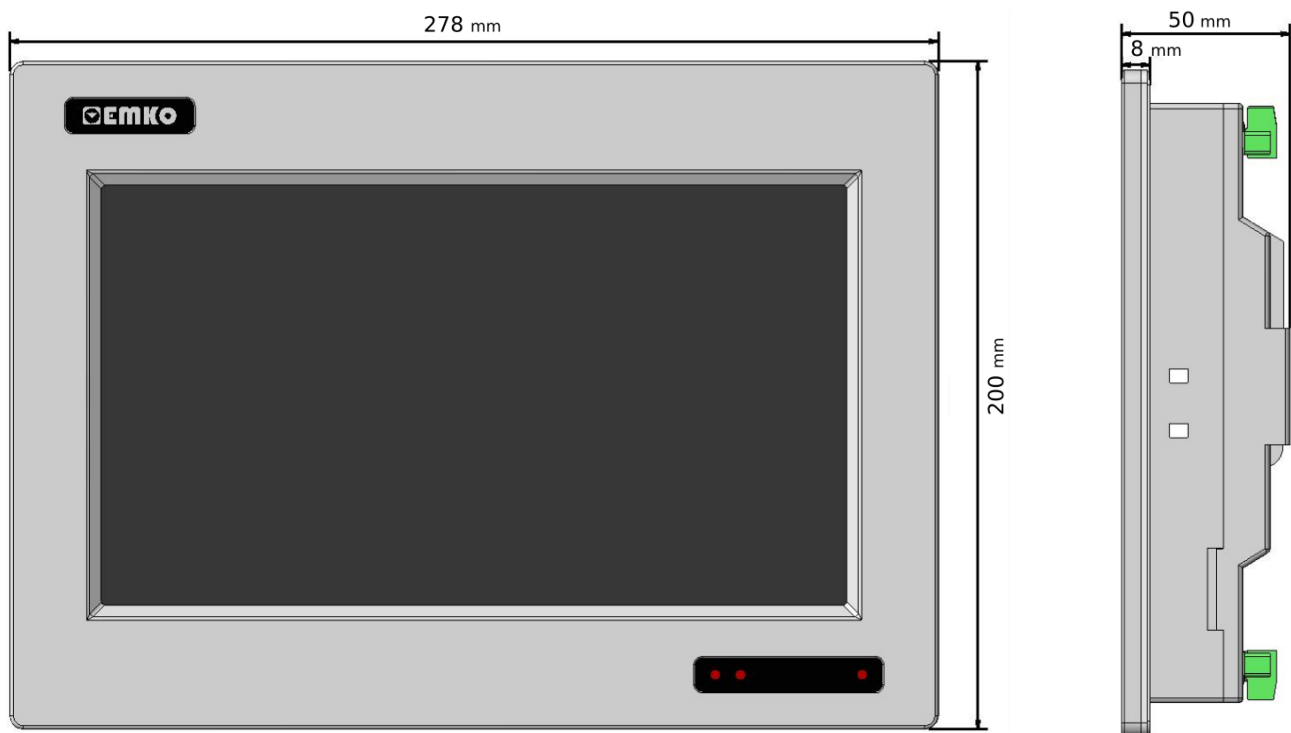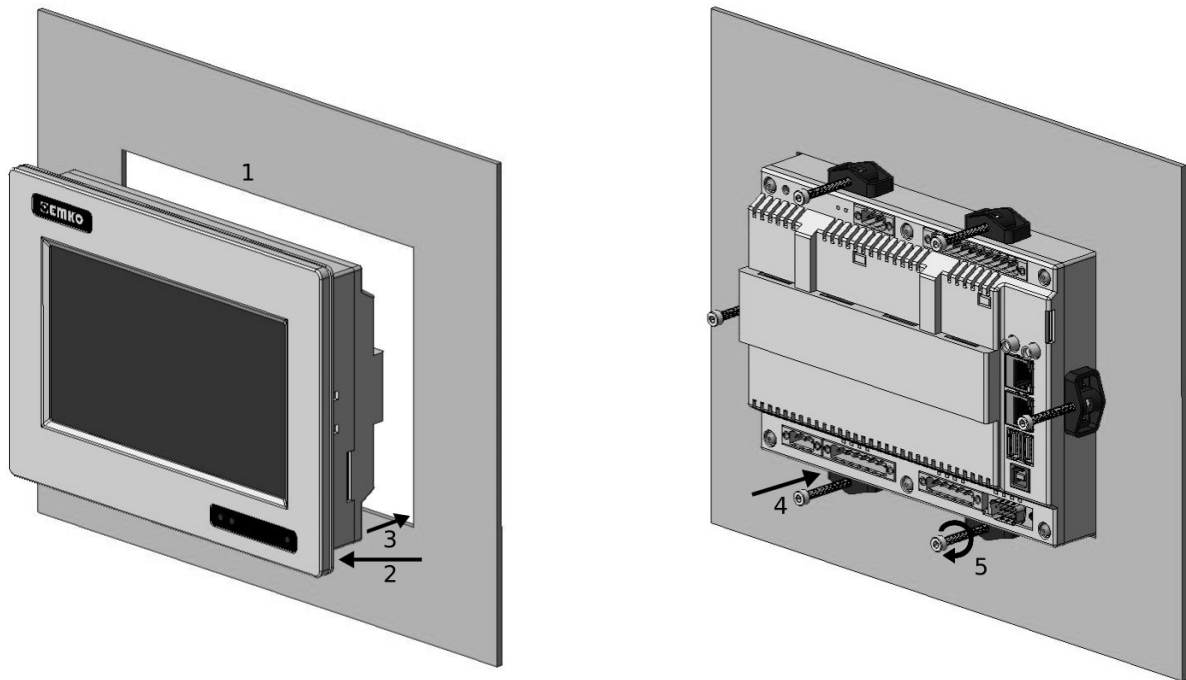
Panel Mounting

1- Before mounting the device in your panel, make sure that the cutout is of the right size.
2- Check front panel gasket position.
3- Insert the device through the cut out.
4- Insert the mounting clamps to the holes of device
5- Screw up the fixing screws until the unit completely immobile within the panel.

Installation

⚠	Before beginning installation of this product, please read the instruction manual and warnings below carefully.

A visual inspection of this product for possible damage occured during shipment is recommended before installation. It is your responsibility to ensure that qualified mechanical and electrical technicians install this product.

Do not use the unit in combustible or explosive gaseous atmospheres.
Do not expose the unit to direct sun rays or any other heat source.
Do not place the unit in the neighbourhood of magnetic equipment such as transformers, motors or devices which generate interference (welding machines, etc.)
To reduce the effect of electrical noise on device, Low voltage line (especially sensor inputcable) wiring must be separated from high current and voltage line.

During the equipment is putted in hole on the metal panel while mechanical installation some metal burrs can cause injury on hands, you must be careful.
Montage of the product on a system must be done with it's own fixing clamps.
Do not do the montage of the device with inappropriate fixing clamps. Be sure that device will not fall while doing the montage.

If possible, use shielded cable and shield must be connected to ground only one side.

Keep the power off until all of the wiring is completed so that electric shock and trouble with the unit can be prevented
The digital outputs and supply connections is designed to be isolated from each other.

Before commissioning the device, parameters must be set in accordance with desired use.
Incomplete or incorrect configuration can cause dangerous stiuations
The unit is normally supplied without a power switch or a fuse. Use power switch and fuse as required.
Be sure to use the rated power supply voltage to protect the unit against damage and to prevent failure.

After the device power on, check power LED lights from on the device screen.
If there is danger of serious accident resulting from a failure or defect in this unit, power off the system and the electrical connection of the device from the system
Never attempt to disassemble, modify or repair this unit. Tampering with the unit may results in malfunction, electric shock or fire.

Please contact us in case of an unexpected situation.
It is your responsibility if this equipment is used in a manner not specified in this instruction manual.

The users should use PROOP Builder software to perform editing in PROOP's product.

PROOP Builder Program Setup

Please, follow the steps on the below for installation the PROOP Builder Software Program.

Step 1:
It is strongly recommended that before proceeding, you ensure that no other Windows programs are running.
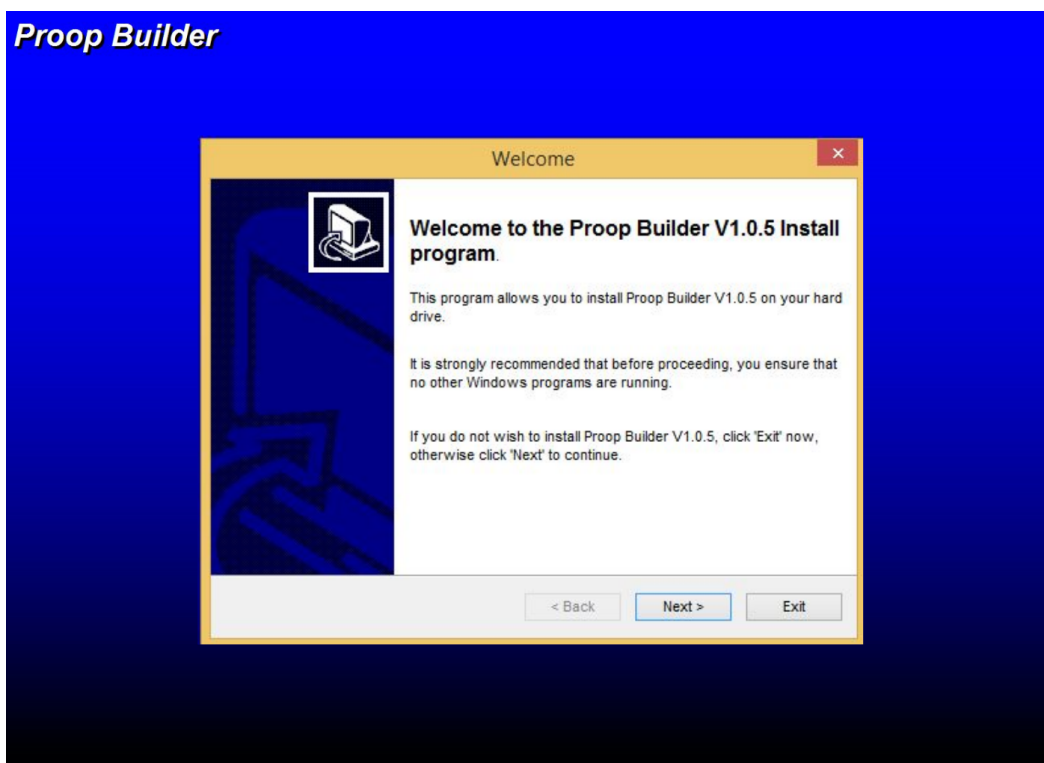
Step 2:
Run the setup.exe included in the installation package.

Step 3:
Continue the installation by following the dialog boxes on the screen and choose where to install.

Step 4:
After selecting the default folder, click *"Next >"* button . If necessary, you can retrieve individual steps with *"< Back"* button. Program will automatically be installed in the default folder.

Step 5:
After installation, click *"Finish"* button in the dialog box on the screen and finish the operation.

Step 6:
Click the Windows Start > Programs > Proop Builder shortcut to start the application.

Pin Connections

Supply (For PROOP 7 and 10)

	Terminal
24VDC	+
+ − ⏚	-
1 2 3	⏚

COM4 (For PROOP 7 and 10)

	Terminal
2 3 5	2- Rx
	3- Tx
	5- GND
8 7	7- RTS
	8- CTS

COM1 (For PROOP 7)

COM1: RS-422
Rx+ Rx− Tx+ Tx−
7   8   9   10

Terminal
Rx+
Rx-
Tx+
Tx-

COM2 - COM3 (For PROOP 7)

COM2: RS-485 COM3: RS-232
A   B GND Rx Tx GND
11 12 13 14 15 16

Terminal
A
B
GND
Rx
Tx
GND

COM1 - COM2 (For PROOP 10)

COM1: RS-422   COM2: RS-485
Rx+ Rx− Tx+ Tx− GND A   B GND
7   8   9   10 11 12 13 14

Terminal
Rx+
Rx-
Tx+
Tx-
GND
A
B
GND

COM3 (For PROOP 10)

COM3: RS-232
Rx Tx GND
15 16 17
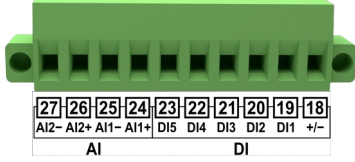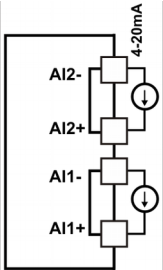
Terminal
Rx
Tx
GND

Digital Inputs/Outputs (For PROOP 7)

27 26 25 24 23 22 21 20 19 18 17
DO− DO4 DO3 DO2 DO1 DO+ DI4 DI3 DI2 DI1 +/−
          DO   DI
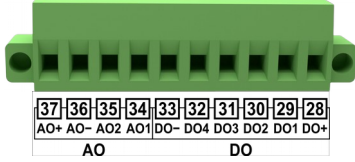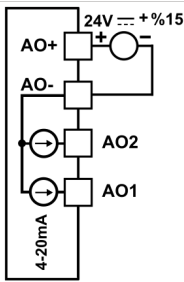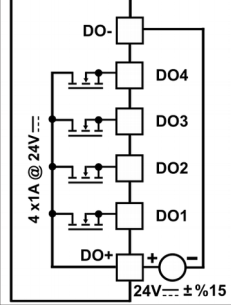
Terminal	Comment	Connection Sheme
DO-	Digital Output Supply -	
DO4	Digital Outputs	
DO3		
DO2		
DO1		
DO+	Digital Output Supply +	
DI4	Digital Inputs	
DI3		
DI2		
DI1		
+/-	NPN / PNP Selection of Digital Inputs	

Analog/Digital Inputs (For PROOP 10)

Terminal	Açıklama	Bağlantı Şeması
A2-	Analog Input 2	
A2+		
A1+	Analog Input 1	
A1-		
DI5	Digital Inputs	
DI4		
DI3		
DI2		
DI1		
+/-	NPN / PNP Selection of Digital Inputs	

Analog/Digital Outputs (For PROOP 10)

Terminal	Açıklama	Bağlantı Şeması
AO+	Analog Output Supply +	
AO-	Analog Output Supply -	
AO2	Analog Outputs	
AO1		
DO-	Dijital Output Supply -	
DO4	Dijital Outputs	
DO3		
DO2		
DO1		
DO+	Dijital Output Supply +	

Warranty

This warranty is provided for a period of two years. This warranty is in force if duty and responsibilities which are determined in warranty document and instruction manual performs by the customer completely.

Maintenance

Repairs should only be performed by trained and specialized personnel. Cut power to the device before accessing internal parts.
Do not clean the case with hydrocarbon based solvents (Petrol, Trichlorethylene etc.). Use of these solvents can reduce the mechanical reliability of the device.

Other Informations

Manufacturer Information:
Emko Elektronik Sanayi ve Ticaret A.Ş.   Demirtaş Organize Sanayi Bölgesi Karanfil Sk. No:616369 BURSA   Phone : (224) 261 1900   Fax : (224) 261 1912
Repair and maintenance service information:
Emko Elektronik Sanayi ve Ticaret A.Ş.   Demirtaş Organize Sanayi Bölgesi Karanfil Sk. No:616369 BURSA   Phone : (224) 261 1900   Fax : (224) 261 1912