



100% EMKO Hardware + HMI Software

proop

Professional Operator Panel

- 10" Operator Panel - Proop10
- 7" Operator Panel - Proop7

Panel Dimensions & Screen Resolutions



10" Operator Panel - Proop10

- 10.1" Wide Touch Screen TFT LCD
- 1024 x 600 resolution (16 million colors)
- Resistive touch screen
- Led LCD lighting
- Backlight lifetime min. 50000 hours at 25°C
- Luminance (cd/m2) 270

7" Operator Panel - Proop7

- 7" Wide Touch Screen TFT LCD
- 800 x 480 resolution (260,000 colors)
- Resistive touch screen
- Led LCD lighting
- Backlight lifetime min. 50000 hours at 25°C
- Luminance (cd/m2) 270

Hardware, HMI Software



Datalogger and
Step Control Features



ARM Cortex-A Series



512 MB DDR3 SDRAM



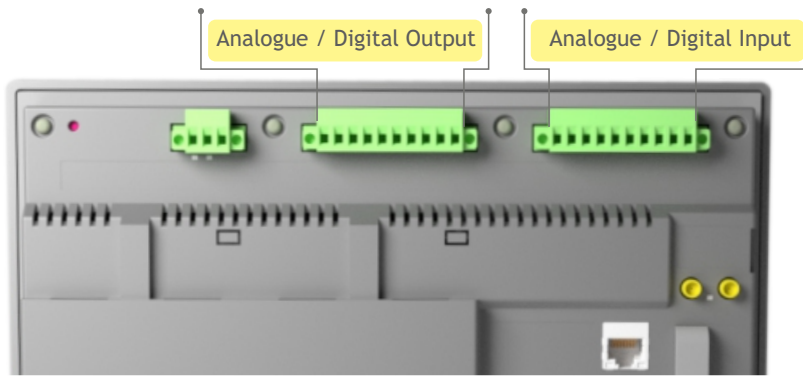
4 Gb eMMC

7" Operator Panel - Proop7

- 4 Digital Inputs
- 4 Digital Outputs

10" Operator Panel - Proop10

- 5 Digital Inputs
- 4 Digital Outputs
- 2 x 4...20 mA Analogue inputs
- Optional Analogue input :
0...10 Vdc or 0...50 mV or PT-100
- Optional Analogue output :
0...10 Vdc



Online / Offline Simulation Mode



Online Simulation:

The designed screen display, macro commands and PLC communication can be tested on the PC without being loaded on the Proop device.



Offline Simulation:

Pre-screening of the designed screen can be done without loading on the compilation and Proop device.

Communication Features

Com. Protocols

- MODBUS ASCII
- MODBUS RTU
- MODBUS TCP/IP

WiFi

- IEEE 802.11 b/g/n standard
- 2.4 GHz frequency band
- Bitrate: max 72 Mbps
- WEP, WPA and WPA2 security protocols
- Soft-AP (access point) support
- Internal integrated antenna
- Certificates:
 - EN 301 489 (EMC immunity)
 - EN 300 328 (Radiated emissions)
 - EN 60950 (Safety standards)

ModBus
RS-422

ModBus
RS-485

ModBus
RS-232

Project Download and Upload Via USB and Ethernet



- USB Input (With USB cable connection) : Project Upload
- USB Host Input (With Flash memory) : Project Dow. / Upload
- USB Host Input for Keypad, Mouse Connection

Project download and upload via USB and Ethernet

High speed data transfer via USB 2.0 and Ethernet port enables fast project loading or downloading.

Prop I/O (Input / Output Expansion Module)

Analogue Inputs

- 5 x Pt-100 (-200...650°C)
- 5 x 0/4...20 mAdc
- 5 x 0...10 Vdc
- 5 x 0...50 mV
- * Must be specified in order

Digital Inputs

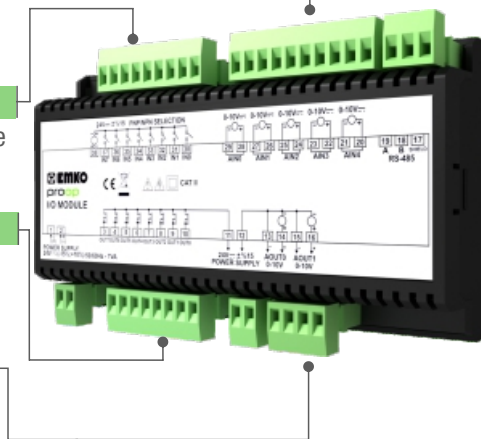
8 x Digital PNP/NPN selectable

Digital Outputs

8 x Digital (Transistor +V)

Analogue Outputs

- 2 x 0...10 Vdc
- 2 x 0/4...20 mAdc
- * Must be specified in order



Prop-I/O	2	2	1	3	E	F
Module Supply Voltage						
24Vdc/Vac (Insulated)	2					
Communication						
RS-485 (Insulated)	2					
Digital Inputs						
8 x Digital Inputs			1			
Digital Outputs						
8 x 1A Transistor (+V)				3		
E Analogue Inputs						
5 x Pt-100 (-200...650°C)					1	
5 x 0/4...20mAdc					2	
5 x 0...10Vdc					3	
5 x 0...50mV					4	
F Analogue Outputs						
2 x 0/4...20mAdc						1
2 x 0...10Vdc						2

Regional Formatting Format Support



Time, date and number formats can be set for local territories.

FreeType and Windows® Font Support

User can create his own font library.

Microsoft Windows Font File Format (Windows FNT),
TrueType (TTF), PostScript Type1 (PFA/PFB), Bitmap Distribution Format (BDF),
CID-keyed Type1, Compact Font Format (CFF), OpenType fonts,
SFNT-based bitmap fonts, Portable Compiled Format (PCF),
Portable Font Resource (PFR), Type 42 (Limited support) supports font types.



Graphics / Visual Features



User can create his own picture library.

Over 100 vector-based prefabricated elements.

Vector based user defined image (SVG) support.

BMP, GIF, JPEG, PNG, PBM, PGM, PPM, TIFF, XBM, XPM format picture support.

Enhanced visual drawing infrastructure ; antialiasing, alphablending support.

User Friendly EMKO Macro

Macro:

It provides to able to control of processing collected data and internal input-output

ERP/MES production monitoring applications adaptation, macro and SQL client support for use in these applications.

```
1 func main()
2 $@ = %IW@ / 10.0;
3 if $@ < $M@
4   %QX@.0 = 1;
5 else
6   %QX@.0 = 0;
7 endif;
8 endf
9 endp

for var1 = 0 to 100 do
var2 = var2 + 1;
endfor;

for var1 = 50 downto 0 do
var2 = var2 - 1;
endfor;
```



	proop-7L	proop-7L.wi	proop-7L.E	proop-7L.Ewi	proop-7C	proop-7C.wi	proop-7C.E	proop-7C.E2	proop-7C.Ewi	proop-7C.E2.wi
Ethernet		X		10/100Mbps		X		10/100Mbps		10/100Mbps
Second Ethernet Input										
Wi-Fi (IEEE 802.11 b/g/n)	X		X	Wi-Fi	X		X	10/100Mbps	X	10/100Mbps
Digital Inputs										Wi-Fi
Digital Outputs		X								4x Digital Input
Analogue Inputs			X							4x Digital Output (Transistor)
Optional Analogue Inputs					X					
Analog Output					X					
Optional Analogue Outputs										
Display Type										7" TFT LCD
Display Colors										260K colors
Resolution										800 x 480
Touch Method										Resistive Analogue
LCD Backlight										Led
Luminance (Cd/m2)										300
Backlight life (hours)										min. 50000 hours at 25°C
MCU										ARM Cortex-A Series
Flash Memory										4GB eMMC
Ram										512 MB DDR3 SDRAM
Buzzer										>=85 dB
USB Device										1x USB 2.0
USB Host										1x USB 2.0
Serial Com-1										RS-232 (DB-9 socket)
Serial Com-2										RS-232 (Terminal)
Serial Com-3										RS-485 (Terminal)
Real Time Clock (RTC)										Build in
Operating Voltage										18...30Vdc
Power Consumption										6W
RTC Battery										Cr2032 button cell lithium battery, 3V
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

	proop-10L	proop-10L.wi	proop-10L.E	proop-10L.E.wi	proop-10C	proop-10C.wi	proop-10C.E	proop-10C.E.wi	proop-10P	proop-10P.wi	proop-10PE	proop-10PE.wi	proop-10PE.E2	proop-10PE.E2.wi
Ethernet		X			X				X					
Second Ethernet Input														
Wi-Fi (IEEE 802.11 b/g/n)	X	Wi-Fi	X	Wi-Fi	X	Wi-Fi	X	Wi-Fi	X	Wi-Fi	X	Wi-Fi	X	Wi-Fi
Digital Inputs		X												
Digital Outputs		X												
Analogue Inputs					X									
Optional Analogue Inputs					X									
Analog Output					X									
Optional Analogue Outputs					X									
Display Type														
Display Colors														
Resolution														
Touch Method														
LCD Backlight														
Luminance (Cd/m2)														
Backlight life (hours)														
MCU														
Flash Memory														
Ram														
Buzzer														
USB Device														
USB Host														
Serial Com-1														
Serial Com-2														
Serial Com-3														
Real Time Clock (RTC)														
Operating Voltage														
Power Consumption														
RTC Battery														
RTC Battery life														
Operating Temperature														
Storage Temperature														
Operating Humidity														
Dimensions														
Panel Cut-Out														
Weight														

