SIMATIC HMI Key Panels

The innovative operator panels

SIMATIC HMI Key Panels can be used for creating conventional operator panels according to the principle of "plug and control": They are ready for installation and pre-assembled. In this way, time-consuming individual assembly and wiring, as required for conventional operator panels, is not necessary.
This reduces the time required for wiring by up to 90% compared to conventional wiring. All that is required is the corresponding installation cutout and a PROFINET cable for connection to the controller.

Key Panels KP8 and KP8F

The KP8 is a Key Panel with 8 large keys with LED backlight. You can set five colors (blue, green, red, yellow, white) and the brightness of the keys via the STEP 7 hardware configuration. The keys can be individually labeled and they feature tactile feedback. Thus they can be reliably operated even when wearing gloves.

The KP8 is available in two versions: The standard version KP8 has 8 inputs/outputs for the direct connection of sensors and actuators, the safety version KP8F has two additional fail-safe inputs.

Communication options

The connection to the controller is made via PROFINET.
A 2-port Ethernet switch permits the configuration of linear and ring topologies.

Ideal expansion for fully enclosed HMI devices

The format of the Key Panels is selected so that they are also ideally suited for installation into the expansion units of the fully enclosed HMI devices (see page 20). On the front, the Key Panels achieve degree of protection IP65.
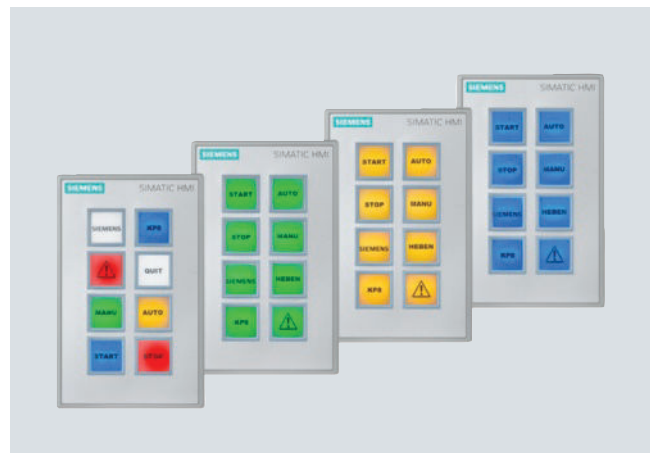
Key Panel KP8F – the fail-safe version

With the help of the integrated PROFIsafe communication, this Key Panel can be used for fail-safe operation with SIMATIC S7-300F/400F for simple emergency stop applications. The two additional fail-safe inputs of the KP8F can be used to achieve SIL 2 with two emergency stop buttons. If an emergency stop button is connected to only one input, SIL 3 is achieved.

The KP8F can be addressed by two fail-safe controllers via the Shared Device PROFINET function.

Highlights of the Key Panels KP8 and KP8F

- Large, freely configurable keys with tactile feedback for reliable working - even with gloves

- LED backlight with five selectable colors for displaying the machine status

- Integrated Ethernet switch for the setup of linear and ring topologies

- Ideally suited for installing in the expansion units of the fully enclosed HMI devices

- A fail-safe version is available for the connection of one or two emergency stop buttons or other fail-safe signals

SIMATIC HMI IPC477C PRO with KP8

Technology overview

	Key Panels	
	The innovative operator panels	
	KP8 PN	**KP8F PN**
Control mode		
Function keys (programmable)	8	8
Output type		
LED color modes	5 (green, red, yellow, blue, white)	5 (green, red, yellow, blue, white)
Typical service life		
Short-stroke keys (switching cycles)	1 500 000	1 500 000
LEDs (ON period in %)	100 %	100 %
Digital inputs		
Number of digital inputs	8	8
Digital outputs		
Number of digital outputs	8	8
Functionality		
Key and lamp test	Yes	Yes
Degree of protection		
Front/rear	IP65/IP20	IP65/IP20
Connection to controller		
SIMATIC S7, WinAC	S7-1200 / S7-300 / S7-400 (PROFINET), SINUMERIK, SIMOTION	S7-300F, S7-400F
SIMATIC S5	No	No
Ambient conditions		
Mounting position	vertical	vertical
Max. permissible angle of inclination without forced ventilation (in °)	+/- 35	+/- 35
Max. relative humidity (in %)	90	90
Temperature		
Operation (vertical installation) in °C	0...+55	0...+55
Operation (max. angle of inclination) in °C	0...+45	0...+45
Dimensions		
Enclosure front (W x H in mm)	98 x 155	98 x 155
Installation cutout/device depth (W x H / D in mm)	68 x 129 / 49	68 x 129 / 49