SIMATIC Mobile Panel 177
Mobile operator control and monitoring via PROFIBUS or PROFINET

Powered by
WinCC flexible

simatic hmi
MOBILE PANELS

SIEMENS

SIMATIC Mobile Panel 177
Mobile solution for industry

Regardless of industry or application, if mobility is required for the on-site control and monitoring of machines and plants, mobile panels offer some crucial advantages:
The machine operators or commissioning engineers are able to work exactly where they have the best view of the workpiece or process. Even for larger production facilities, complex or enclosed machines, long materials handling or production lines and conveyor systems, mobile operator panels allow fast and precise setting up and positioning during commissioning. They also ensure shorter downtimes during retooling, maintenance or repairs.

SIMATIC Mobile Panels are compact, ergonomically designed, while at the same time being rugged enough for industrial use. They are operated by means of touch screens and membrane keyboards. Additional operating elements increase user-friendliness and permit direct access to the distributed IO. As part of the sophisticated safety concept, the STOP push-button can be used for stopping the machine in critical situations.

The SIMATIC Mobile Panels supplement the stationary panels of the SIMATIC HMI series. This means that a complete and integrated range of products for operator control and monitoring is available.

The SIMATIC Mobile Panel 177 is available with PROFIBUS or PROFINET interfaces. It is thus prepared for automation solutions that use the Industrial Ethernet Standard for automation system-wide.

An overview of the highlights

- Rugged design for industrial use
- Ergonomic, compact and light-weight
- Flexible use thanks to simple reconnection during operation
- Insertion and removal without interrupting the emergency stop circuit (with connection box Plus)
- Reliable operation with sophisticated safety concept
- Connection point recognition
- Integrated interfaces: serial, MPI, PROFIBUS or PROFINET
- Complete HMI functionality
- Short device ramp-up time after docking
- Configuration with WinCC flexible (WinCC flexible 2005 Compact or higher)
- Graphics library available with off-the-shelf picture objects
- Can be used all over the world: 32 languages can be configured (with Asian and Cyrillic fonts)

Mobile Panel 177 – for every application the right version – also with PROFINET interface

SIMATIC Mobile Panel 177
Functional design, user-friendly operation

Compact and ergonomic design

In designing the devices, consistent attention was paid to ease of operation and ergonomic aspects. With its low weight and handy, compact structure, the Mobile Panel is easy to handle. It can be gripped and held in a variety of ways and all operator controls are easily accessible. This means that the Mobile Panel can be used effortlessly for longer periods, by either right-handed or left-handed operators.
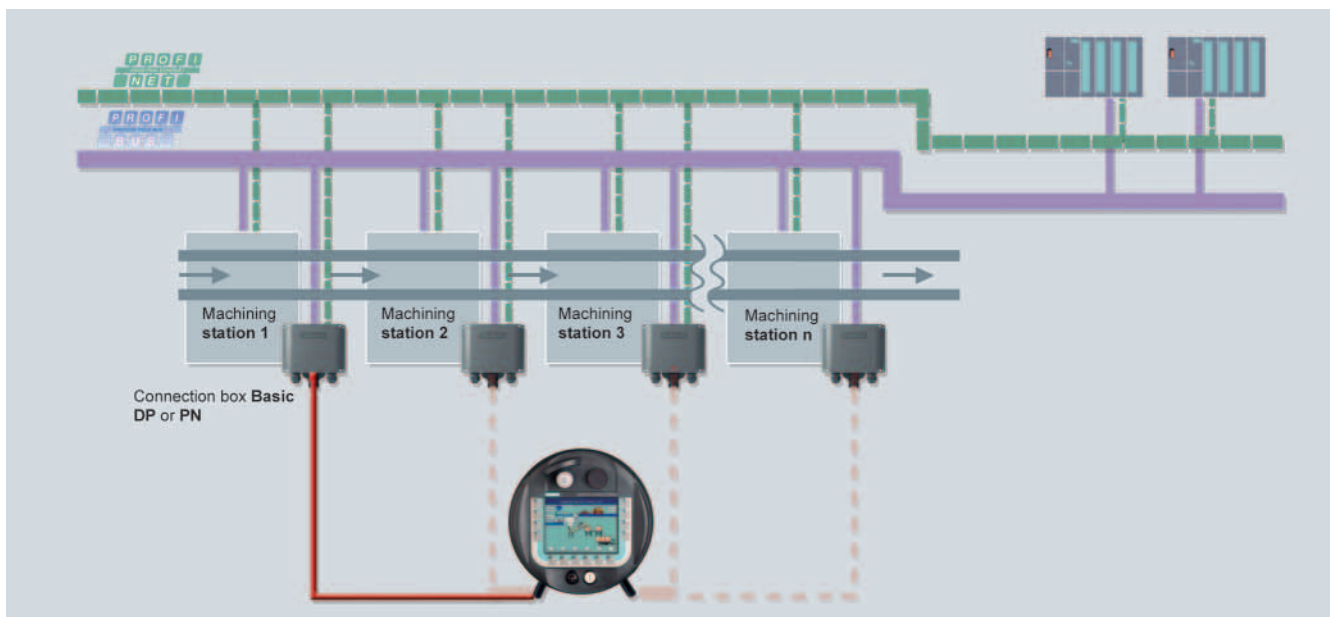
Reliable and secure operation

SIMATIC Mobile Panels are easy and reliable to use and ensure short response times. Operation takes place intuitively via the touch screen or membrane keyboard, which provide perceptible and thus reliable feed-back – even when the operator is wearing gloves. For time-critical operation and control processes with very short response times the membrane keyboard and touch screen can also be connected directly to the distributed IO. Even the additional control elements can be configured as direct keys. With the optional wall bracket, the Mobile Panel can be securely stored or used as a stationary terminal.

Rugged design for industrial use

Thanks to the double-walled structure and the rounded casing, SIMATIC Mobile Panels are extremely shock-resistant. For example, they can survive a fall from a height of 1.5 m without damage. The STOP pushbutton in particular is secured with a "protective collar". This minimizes the possibility of unintentional triggering of this safety function or the risk of damage when the device is dropped. Harsh industrial environments cannot harm the SIMATIC Mobile Panels with their completely dust- and splash-proof casing with IP65 degree of protection. The high requirement for ruggedness comprises the entire system, including terminal box and cable.

Variable access to different stations without emergency stop wiring

SIMATIC Mobile Panel 177
Sophisticated safety concept

The SIMATIC Mobile Panel 177 offers the option of making safety functions available on a mobile basis at any point of a machine or plant. It has two enabling buttons which ensure the protection of personnel and machines in critical situations.

The enabling buttons are integrated into the handle on the back.

Device models with an additional STOP pushbutton can be wired into the emergency shutdown circuit of a machine or plant by means of the connection boxes. In this way, the STOP pushbutton offers the functionality of an emergency stop pushbutton, but differs visually from conventional emergency stop devices due to its gray color. This eliminates any danger of confusion. This is important first and foremost because the mobile operator panel - contrary to the requirement for emergency stop devices - is not always connected to the machine.

STOP and enabling pushbuttons are designed with dual circuits according to the safety regulations (EN 60204-1). This means it is possible to achieve Safety Category 3 to EN 954-1.

Configuration options with emergency stop wiring

Connection at one point of the machine

The "Basic" connection box versions are used for connecting the SIMATIC Mobile Panel 177 with STOP pushbutton to one point of the plant. The disconnection of the device in this case causes an opening of the emergency STOP circuit and thus triggers the emergency stop.
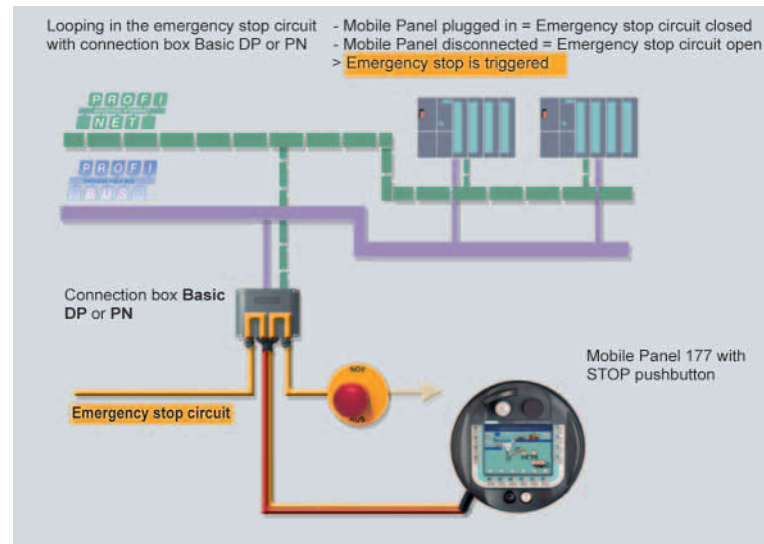
The STOP pushbutton on the mobile panel supplements, but does not replace the emergency stop facility to EN 418 which is permanently installed on the machine.

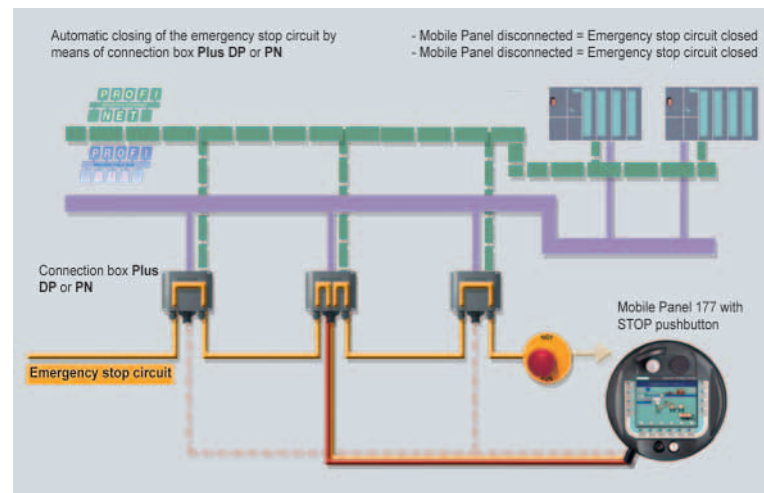Variable connection to different stations of a machine or plant

If you use a Mobile Panel 177 with STOP pushbutton together with a connection box "Plus", a configuration can be set up in which the Mobile Panel can be used at different connection points and at the same time it can be looped into the emergency stop circuit.

On connection of the Mobile Panel, the device is looped into the emergency stop circuit. The emergency shutdown circuit remains closed regardless of whether the Mobile Panel is plugged in or disconnected. If the Mobile Panel is disconnected during operation, the emergency stop circuit in the connection box is automatically closed which prevents triggering of the emergency stop circuit.

The STOP pushbutton on the mobile panel supplements, but does not replace the emergency stop facility to EN 418 which is permanently installed on the machine.

Connection at one point of the machine

Variable access to different stations

SIMATIC Mobile Panel 177
Innovative connection solutions

The mobile panel is simply plugged into the connection box wherever it is needed on the machine and is immediately ready for use. The rugged and safe connection box with IP65 protection can be mounted anywhere, even outside the control cabinet. It ensures fault-free hot swapping and thereby creates the opportunity of switching the operating locations simply and safely if there are several connection points in one plant or machine. The SIMATIC Mobile Panel can be configured such that the user interface changes according to the connection point.

A new feature of the SIMATIC Mobile Panel 177 is the connection point recognition. This enables machine-specific HMI calculations or actions to be performed depending on the selected connection point.

Fast device ramp-up

The Mobile Panels are characterized by a fast device ramp-up after plugging them into the connection boxes. By using an optional battery pack, the ramp-up time of the mobile panel – after a short period of separation from the connection box – can again be significantly reduced.

The Mobile Panel 177 can also be connected to existing connection boxes of the Mobile Panel 170.

Existing Mobile Panel 170 units can also be linked to the new connection boxes and continue to be used. The new function of the access point recognition can only be used when combining a Mobile Panel 177 with a new connection box DP or PN (for PROFIBUS or PROFINET).

The operation of a Mobile Panel 170 or Mobile Panel 177 DP with a connection box PN is not possible and is mechanically locked.

Integrated interfaces

PROFIBUS variants

The communication with the PLC is implemented via PROFIBUS DP at up to 12 Mbit/s, via MPI or via the serial interface. The connecting cable can be up to 25 meters long. The interfaces are already integrated and a variety of drivers – even for non-Siemens PLCs – are also included.

PROFINET variants

Via PROFINET, the open Industrial Ethernet standard for automation, a data rate of up to 100 Mbit/s to the PLC can be achieved. Here too, the connecting cable can be up to 25 meters long. By means of integrated switches, PROFINET connection boxes as well as PROFIBUS connection boxes can also be connected in series.

Optional control elements

The control elements handwheel, keyswitch and illuminated pushbutton can be used in addition to touch and membrane keys for directly controlling the inputs/outputs of the distributed IO (direct key function). This function can be used via PROFIBUS as well as via PROFINET.

Connection via PROFIBUS

Connection via PROFINET

SIMATIC Mobile Panel 177
Complete HMI functionality

HMI functionality with many extras

SIMATIC Mobile Panels have a variety of functions that facilitate innovative operating concepts. On the 5.7" color STN display they offer pixel graphics presentation in 256 colors, bar charts, input and output fields, buttons, text and graphic lists, user administration, signaling system, curve display, recipe management and much more.

For simple data exchange, multimedia cards (MMCs) can be used, e.g. as memories for recipe data or for backup/restore. Using the new function "Configure system keys", the project engineer can reconfigure function keys into system keys. A frequently used function such as "Acknowledge" can thus be applied to a function key.

Using the WinCC flexible option packages Sm@rtService and Sm@rtAccess, the familiar Internet/Intranet functions can now be readily used in the mobile segment as well. Sm@rtAccess permits communication between HMI systems via Ethernet or Internet/Intranet and Sm@rtService allows remote maintenance for service calls via the Internet/Intranet.
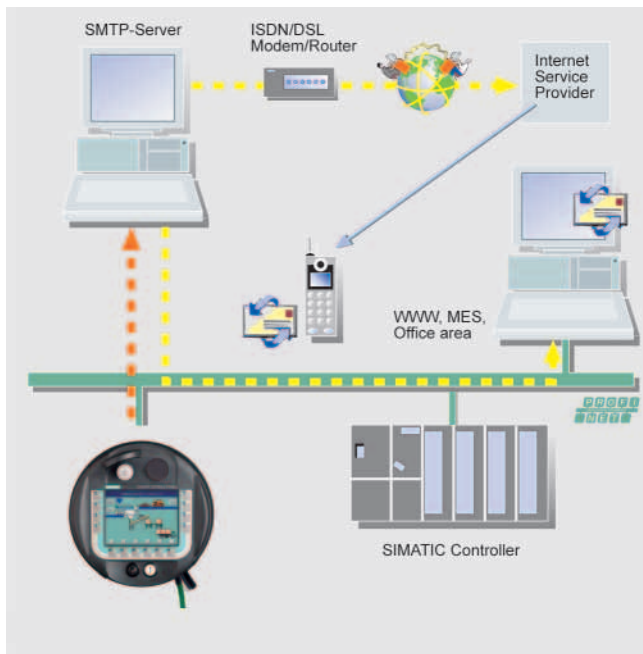
Efficient configuration

Configuration now takes place with the innovative SIMATIC WinCC flexible engineering tool.
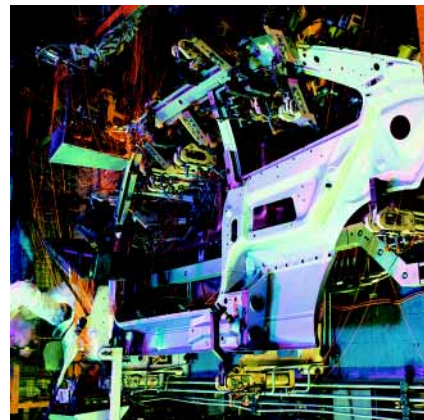
SIMATIC WinCC flexible is the logical further development of ProTool. It permits end-to-end configuration of all SIMATIC operator panels from the smallest micro panel to the PC. WinCC flexible is compatible with ProTool, so that existing configurations can simply be carried over.

Totally Integrated Automation

With Mobile Panel 177 together with WinCC flexible, the advantages of Totally Integrated Automation can be utilized to reduce engineering costs. Multiple inputs, which may result in faults, are thus avoided by access to the STEP 7 database.

Remote operator control and monitoring with Mobile Panel 177 via Industrial Ethernet or intranet / internet

SIMATIC Mobile Panel 177
Technology overview

Mobile Panel 177	
Display	STN, CCFL backlit
Size in inches / W x H in mm	5.7" / 121 X 92
Resolution (pixels) / colors	320 x 240 / 256 colors
MTBF of background lighting (at 25 °C)	50.000 h
Operating options	Touch screen (analog/resistive), membrane keyboard
Programmable function keys with optional labeling	14 (8 with LEDs)
Numeric/alphanumeric input	yes/yes
Enabling button (EN 60204-1)	2-channel, 3-stage
STOP pushbutton (EN 60204-1)	optional, 2-channel, positive latching, can be wired into emergency stop circuit
Key-operated switch	optional, 3 switch positions
Illuminated pushbutton	optional
Handwheel	optional
Operating system	Microsoft Windows CE
Memory (available for user data)	2 MB Flash, integrated
Interfaces Mobile Panel 177 DP for connection to PLC	1 x RS 232, 1 x RS 422, 1 x RS 485 max. 12 Mbit/s SIMATIC S7/WinAC Soft PLC, Slot PLC (V 3.0 or higher) SIMATIC S5/505, SIMOTION, Allen Bradley, Mitsubishi, Modicon, Omron, GE, Fanuc, LG GLOFA GM;SIMATIC S7/WinAC/S5/505 also via PROFIBUS DP (integrated)
Interfaces Mobile Panel 177 PN for connection to PLC	1 x Ethernet (10 Mbit/s, 100 Mbit/s) SIMATIC S7 via PROFINET (integrated)
Direct keys • Mobile Panel 177 DP • Mobile Panel 177 PN	DP-direct key PROFINET IO WinCC flexible 2005 SP1 or higher
Multi Media Card (MMC)	yes
Supply voltage	via connection box
Clock	Software clock, no battery backup
Ext. dimensions (Ø / T) in mm	245 / 58
Weight	approx. 1.3 kg
Temperature • Operation • Transportation/storage	0°C to +40°C -20°C to +60°C
Fall height, max.	1.5 m
Type of protection	IP65
Certificates	cULus, CE, C-Tick, SIBE

Mobile Panel 177	
Functionality	All specified values are maximum values relative to the respective function. The total of all elements is limited by the size of the user memory.
Variables	1000
Messages	2000
Message buffer	Circulating buffer (mainten.-free and remanent), 256 entries each
Process images • Graphic objects • Dynamic objects • Variables per image • Text elements	500 • Bitmaps, icons, background images, vector graphics • Diagrams, bar charts, hidden buttons • 50 • 2500
Fonts	Tahoma, ideographic languages freely scalable
Recipes	100 (32 KB integral recipe memory)
Help system	yes
Online languages	5
User administration (Security)	32 user-group-specific rights
Configuration	SIMATIC WinCC flexible (WinCC flexible 2005 Compact or higher)
Runtime options	• WinCC flexible /Sm@rtAccess • WinCC flexible/Sm@rtService

Connection box (Basic, Plus)	
Interfaces • Connection Box DP • Connection Box PN	1 x RS 232, 1 x RS 422, 1 x RS 485 2 x Ethernet (10 Mbit/s, 100 MBit/s) with integral switch
Supply voltage	DC 24 V
External dimensions (W x H x D) in mm • Connection Box DP • Connection Box PN	160 x 120 x 70 230 x 120 x 75
Temperature • Operation • Transportation/storage	0 to +50 °C -20 to +70 °C
Type of protection	IP65
Versions	Basic: with emergency stop circuit interruption when hot swapping Plus: without emergency stop circuit interruption when hot swapping

SIMATIC Mobile Panel 177

You can find more manuals in the
SIMATIC Guide documentation:
www.siemens.com/simatic-docu

You can order more **printed material on**
SIMATIC at:
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To arrange a **personal discussion** you can find
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