

SIMATIC Mobile Panel

HMI goes mobile



Regardless of the industry or application, whenever mobility is required for the "on-site" operation of machinery and systems, SIMATIC® Mobile Panels are called for: with these portable operating units you can directly operate large production systems, complex or encapsulated machines, long transfer or production lines or conveyor equipment from the place of your choice. The portable operating units enable operation at different points along the production line. This enables optimum viewing of the workplace or the process, as well as direct access to and visual contact with the operating unit.

It also permits fast and precise installation and positioning during startup and greatly reduces downtimes during reloading, servicing or troubleshooting.

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MOBILE PANELS



SIEMENS

SIMATIC Mobile Panels

Mobile solutions for industry

Safe and reliable operation

SIMATIC Mobile Panels ensure reliable data transfer and short response times. Operation takes place intuitively by the touchscreen or by membrane keys, which – even when wearing gloves – give perceptible and thus reliable feed-back. For time-critical operations and control processes with very short response times the membrane keys can also be used as DP direct keys (I/O peripherals). With the optional holding fixture the Mobile Panel can be safely stored or operated as a stationary unit.

Rugged construction for use in industry

The dual-wall construction and the round form of the housing make the Mobile Panels exceptionally stable. They incur no damage even after falling from a height of 5 feet. The STOP button is provided with a special "protective shroud". Unintentional release of this safety function and the risk of destruction, even if the Mobile Panel is dropped, are thus minimized. With their dust-tight and water-jet-proof housing of degree of protection IP 65 SIMATIC Mobile Panels are designed to meet rough industrial conditions. The entire system, including connection box and connection cable, meets high demands for ruggedness.



The link to the PLC, the power supply and signal transfer from the STOP and enabling buttons are provided by using the connection box and connecting cable.

Proven safety concept

The Mobile Panel has two enabling buttons (to EN 60204-1), each with three switch positions to ensure the protection of personnel and machine in critical situations. The enabling buttons are integrated in the handle at the back.

The STOP switch (to EN 60204-1) can be wired into the emergency stop circuit of a machine, and is forced into a locked position when activated. If the Mobile Panel is connected to the machine, the STOP switch provides the functionality of an emergency stop switch, but is visibly differentiated by its gray color. Therefore there is no danger of confusion with an emergency stop device. This is particularly important if the mobile control unit is not connected to the machine. SIMATIC Mobile Panels make it possible to provide safety functions at any point of a machine or system.

STOP and enabling switches are designed with dual circuits according to the safety directives, and safety category 3 to EN 954-1 can be achieved.

Integral ports

Communication with the PLC takes place using PROFIBUS DP with up to 12 Mbit/s, MPI or the serial interface. The cable can be up to 10 m long. The interfaces are already integrated and the standard scope of supply also includes a range of drivers – even for the controllers of other manufacturers. The handwheel, keyswitch and illuminated pushbutton are directly controlled via a DP I/O (DP direct key function).



SIMATIC Mobile Panels

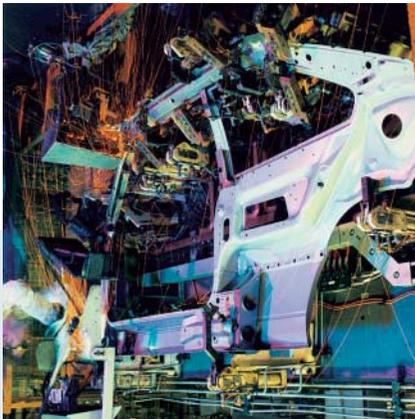
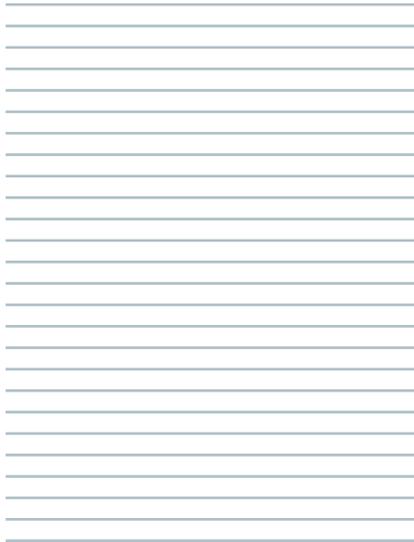
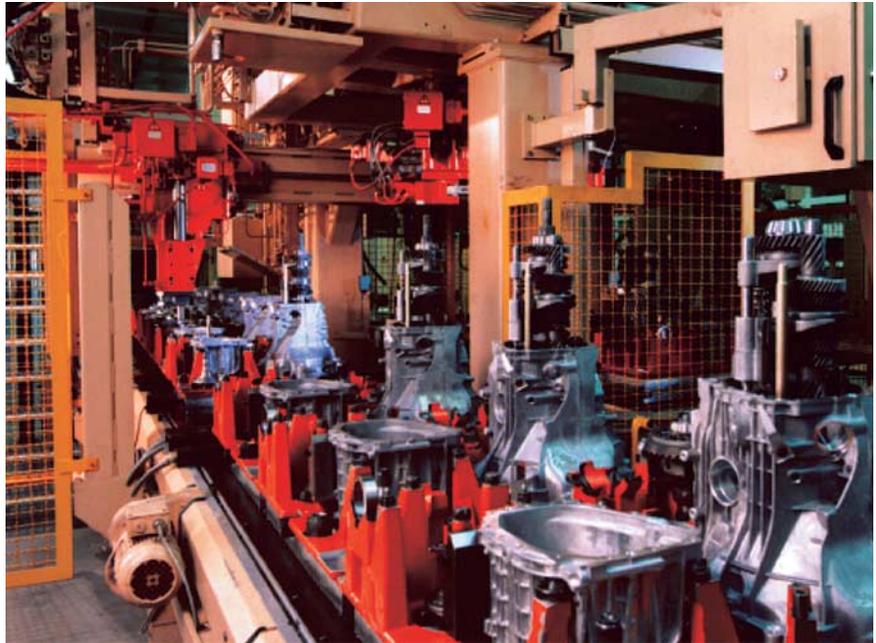
Flexible, rugged, save, ergonomic

The highlights in brief

- Flexible use by simply re-plugging during operation
- Hot swapping without interrupting the emergency stop circuit (with connection box *Plus*)
- Rugged construction for use in industry
- Reliable operation with a perfected safety concept
- Compact, ergonomic and light-weight
- Integrated interfaces: serial, MPI and PROFIBUS DP (up to 12 Mbit/s)
- Full HMI functionality
- Configured with SIMATIC ProTool/Lite

SIMATIC Mobile Panel 170

The SIMATIC Mobile Panel 170 is equipped with a 5.7" color STN touch-screen (analog/resistive) with full graphics capability and 14 membrane keys, as well as two three-step enabling buttons. Also available are versions with a STOP switch, or with a STOP switch, hand-wheel, keyswitch and illuminated pushbutton. If the STOP switch is wired into the emergency stop circuit, its function corresponds to an emergency stop function.

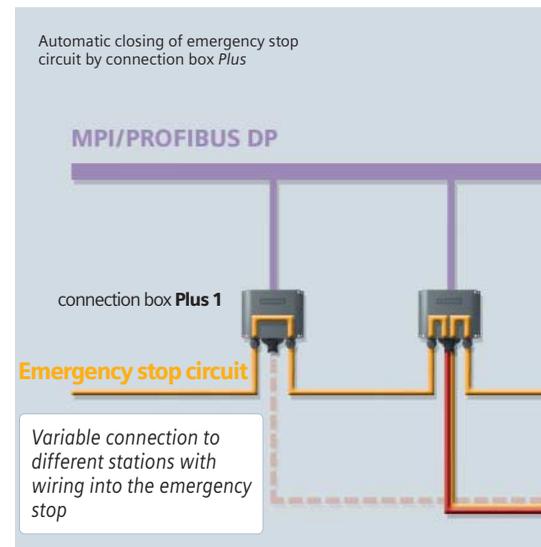
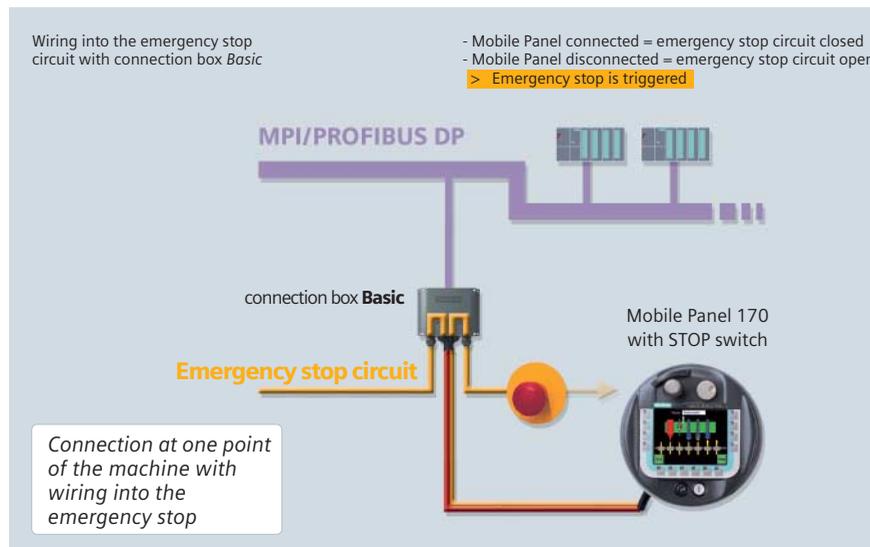
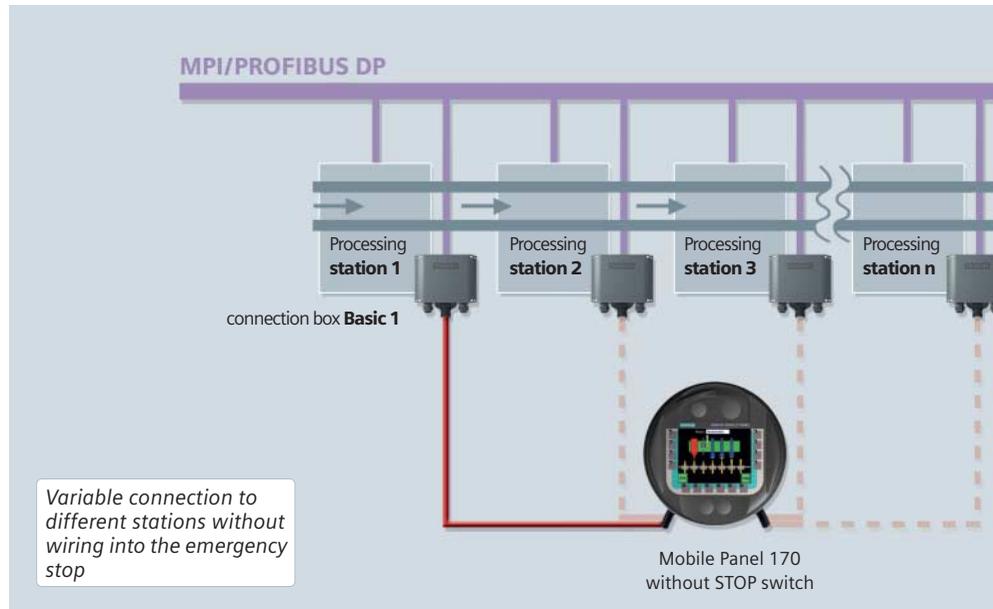


SIMATIC Mobile Panels

Maximum mobility and safety

Innovative connection concept

The Mobile Panel is simply plugged into the connection box located wherever it is required for the system or machine and is thus immediately available. The safe and rugged connection box with degree of protection IP 65 can be installed anywhere, even outside the control cabinet. This ensures fault-free connection and withdrawal during operation and makes it possible to change simply and safely between several connection points of a system or machine. The SIMATIC Mobile Panel can also be configured so that the user interface changes according to connection point.



Configuration options with wiring the emergency stop

The versions with STOP switches can be incorporated into the emergency stop circuit of a machine or system via the connection boxes. The connection box is available in two versions: Basic and Plus. When disconnecting the Mobile Panel, the connection box Plus automatically closes the emergency stop circuit, thus guaranteeing safe, fault-free operation when swapping its connection point.

Connection at one point of the machine

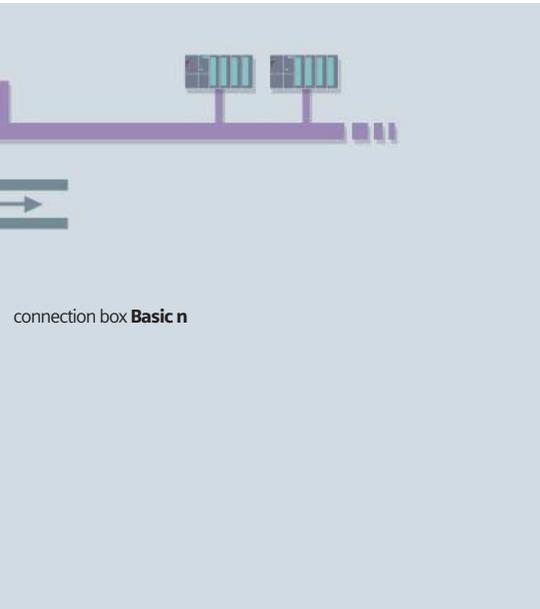
The safety functionality of the versions with STOP switches permits the unit to be wired into the emergency stop circuit. Pressing the STOP switch on the Mobile Panel then triggers the emergency stop. If a connection box Basic is used, disconnecting results in opening of the emergency stop circuit, and thus triggering of the emergency stop function. The STOP switch on the Mobile Panel supplements the emergency stop device according to EN 418 which is fixed to the machine, but does not replace it.

Variable connection to different stations of a machine or system

If a Mobile Panel 170 with STOP switch is used together with the connection box Plus, it is possible to design a configuration in which the Mobile Panel can be used simultaneously with the wired emergency stop circuit. The emergency stop circuit remains closed irrespective of whether the Mobile Panel is connected or disconnected. When the Mobile Panel is connected, the unit is wired into the emergency stop circuit.

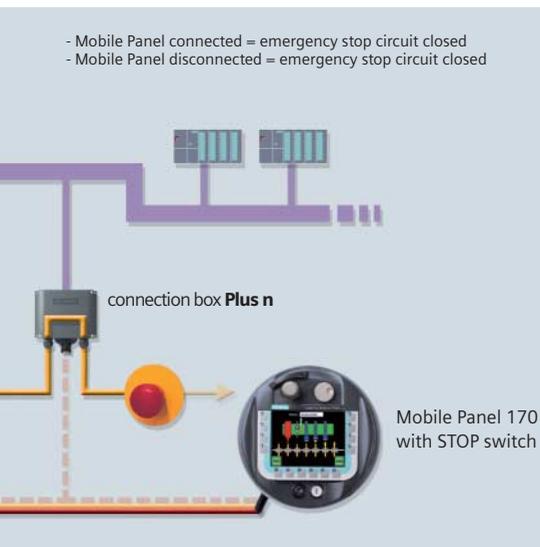
SIMATIC Mobile Panels

Ergonomic and efficient



Compact and ergonomic

The unit design is committed to operating convenience and ergonomics. The light weight, easy to operate compact design makes the Mobile Panel easy to carry. It enables different holding and gripping positions, and all operating elements are optimally accessible, permitting effortless operation over longer periods by both right-handed and left-handed operating personnel.



Efficient configuring with SIMATIC ProTool/Lite

SIMATIC Mobile Panels, with their mobile operating capability, complement the SIMATIC HMI family of stationary Panels. A complete product line ready to meet all HMI needs is now available. All SIMATIC operating units are configured with the SIMATIC ProTool Windows-based configuration software. The low-priced ProTool/Lite® (from version 6.0 + SP2) package is already included with the Mobile Panel 170.

Full HMI functionality

The Windows CE 3.0 operating system of SIMATIC Mobile Panels provides the basis for diverse functionality and innovative operating concepts. They offer: full graphics capability with 16 colors, bars, input-output fields, softkeys, text and graphics lists, password protection, event system, trends, recipe handling and much more.

Integral part of SIMATIC

It goes without saying that SIMATIC Mobile Panels make use of the advantages of Totally Integrated Automation® (TIA) for the reduction of engineering costs. Thus, for example, accessing the STEP® 7 database avoids multiple inputs.

Pressing the STOP switch opens the circuit, and an emergency stop is triggered. If the Mobile Panel is disconnected during operation, the emergency stop circuit in the connection box Plus is automatically closed.

The STOP switch on the Mobile Panel supplements the emergency stop device according to EN 418 which is fixed to the machine, but does not replace it.



SIMATIC Mobile Panels

Summary of technical specifications

Mobile Panel 170	
Display	STN, CCFL backlit
• size in inches / W x H in mm	5.7" / 116 x 87
• resolution (pixels) / colors	320 x 240 / 16 colors
• MTBF background illumination (at 25 °C)	50,000 h (corresponds to approx. 6 years with 24-h continuous operation)
Input medium	Touchscreen (analog/resistive), membrane keyboard
• Programmable function keys, optional labelling	14 (8 with LED)
• Numeric / Alphanumeric input	Yes/yes
• Enabling button (EN 60204-1)	2-channel, 3-enabling settings
• STOP button (EN 60204-1)	Optional, 2-channel, forced blocking, can be wired into the emergency stop circuit
• Keyswitch	Optional, 3 switch settings
• Illuminated pushbutton	Optional
• Handwheel	Optional
Processor	32-bit RISC/66 MHz
Operating system	Microsoft Windows CE 3.0
Memory	Flash, integrated
• Free for user data	768 Kbyte (for ProTool configuration)
Interfaces	
• Serial	1 x RS 232, 1 x RS 422, 1 x RS 485 max. 12 Mbit/s
• CF Card Slot	Yes
Printers	Serial (IF2)
Connection to PLC	SIMATIC S7/WinAC® Soft-/Slot-SPS (from V 3.0), SIMATIC S5/S05, SIMOTION, Allen Bradley, Mitsubishi FX, Télémécanique (Uni-Telway), AEG Modicon (Modbus), Omron (Host-/Multilink), GE Fanuc, Lucky Goldstar; also to SIMATIC S7/WinAC/ S5/S05 via PROFIBUS DP (integrated)
Power supply	Using connection box
Clock	Hardware clock, not buffered
Dimensions	
• Outer dimensions (Ø/D) in mm	245 / 58
Weight	Approx. 1.3 kg
Temperature	
• Operation	0 to +40 °C
• Transport / storage	-20 to +60 °C
Relative humidity	Max. 90 %; no condensation
Max. height of fall	5 feet
Degree of protection	IP 65
Certificates	CE/UL/CSA, safety category 3 to EN 954-1 achievable

Mobile Panel 170	
Functionality	All values given are maximum values with reference to the particular function. The sum of all elements is limited by the size of the user memory.
• Variables	1,000
• Event/alarm messages	1,000 / 1,000
• Message buffer (volatile)	Yes
• Process screens	100
- Graphics objects	500, vector graphics
- Dynamic objects	Input, output, I/O fields, date/time fields, status buttons for softkeys, indicator lights, bars, figure output, trends, text and graphics lists
- Variables per screen	50
- Text elements	2,000
• Character sets	True Type Fonts, freely scalable
• Recipes	100 (32 Kbyte recipe memory integr.)
• Info texts	Yes
• Online languages	5 (21 runtime languages available, including Chinese, Korean, Taiwanese, Russian)
• Password protection	9 levels
Configuration	SIMATIC ProTool/Lite, ProTool® or ProTool/Pro® from V6.0+SP2; runs under Windows 98SE/ME/NT 4.0/2000/XP Professional

Connection box (Basic, Plus)	
Interfaces	
• Serial	1 x RS 232, 1 x RS 422, 1 x RS 485
Power supply	24 V DC (+18 to +30 V)
• Current consumption, typ.	Basic: 0.4 A / Plus: 0.9 A at 24 V with Mobile Panel 170 connected
Dimensions	
• Outer dimensions W x H x D in mm	160 x 120 x 70
Weight	Approx. 0.35 kg
Temperature	
• Operation	0 to +50 °C
• Transport / storage	-20 to +60 °C
Relative humidity	Max. 95 %; no condensation
Degree of protection	IP 65
Hot swapping	Basic: with emergency stop interruption Plus: w/o emergency stop interruption

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