Mobile Panel
More than just mobile operation and monitoring

Mobile operator panels are used everywhere where machine operation and monitoring require the maximum amount of flexibility. B&R has created a leading-edge product line which integrates control as well as operation and monitoring.

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System characteristics

Robust design for use in rough industrial environments

A hand-held unit like the Mobile Panel has to meet higher demands than a mounted device. For this reason, the Mobile Panel has a particularly robust design. The double-walled housing absorbs hard impacts. Control elements such as key switches and E-stop are flush-mounted. The rounded housing form dampens external impacts.

In addition, the electronics are positioned to absorb external shocks and jolts as effectively as possible. The housing, cables, and connectors are all protected against dust and sprayed water.

Operating and monitoring

On the Mobile Panel, the limited space available for display and keys is used optimally. B&R decided on a combination of function keys, numeric keys and touch screen. Frequently used functions can be assigned to pre-programmed keys, and functions that depend on the state of the machine are assigned to touch buttons. A digital pen for touch operation can be found on the back of the device.

Wide variety with MP40/50

Ergonomic, light and extremely impact-resistant. These qualities of the six new handheld operating devices in the MP40 and MP50 lines enable safe and simple on-site operation and monitoring with a maximum range of functions.

The main differences within the various series include display size and the types of operating elements. Depending on the application, operating elements might include a joystick, handwheel, override potentiometer, key switch, or illuminated button. The MP40 and MP50 Mobile Panel devices are available with a 3.8" QVGA LCD monochromedisplay and a 6.5" VGA TFT color display.

For safety, an E-stop button is integrated via an additional connection box, which enables connecting and disconnecting during operation without loss of the safety function. Two integrated three-step enable switches, ergonomically optimal for left or right-handed operators, provide the highest degree of safety even during setup.

Performance principle

The processors are based on an Intel PXA 270 CPU with 128 MB flash memory and 256 MB DRAM. The Windows CE operating system offers a flexible foundation for a wide range of applications types, such as mobile thin clients, direct connections to the controller and open SCADA systems. The double-walled panels with IP65 protection have integrated interfaces such as USB and Ethernet 10/100.

The new series fits seamlessly into the B&R system environment. The panels are configured easily using Visual Components. The X20 CPU provides a compact and scalable control platform that unites all functions.

A firm grasp on operation with MP100/200

For a Mobile Panel, operating comfort is mainly defined through ergonomics. Many well thought out details guarantee that the Mobile Panel is easy to handle. Having the cable connected in the middle keeps the Mobile Panel balanced and prevents one side from being dragged down. The handle can also be adjusted without tools, allowing the Mobile Panel to be used optimally by both right- and left-handed operators.

The Mobile Panel surface is also important for operating comfort. The device has a soft-touch coating, which results in optimal haptic qualities. The soft-touch coating is also extremely resistant to impacts, acids, alcohol and cleaning agents. The handle was designed so that the Mobile Panel can stand steadily on a table and be operated securely.
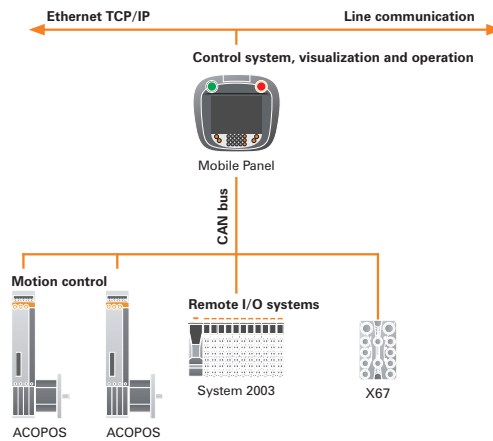
Communication

The Mobile Panel can be seamlessly integrated in the automation solution. An Ethernet connection is available for this purpose. For devices with an integrated controller, networking takes place via CAN bus. Thought was also given to loading programs. A separate serial connection is available so that program changes can be downloaded without opening the housing. All communication channels are transferred to the switching cabinet using a hybrid cable.

All software is stored on a CompactFlash card which is found behind a cover on the back of the Mobile Panel. In addition to the CompactFlash slot, a USB interface can be used to transfer data using a USB flash drive.

Typical topologies

Mobile control and visualization

The control program and the visualization run on the Mobile Panel 200. I/O peripherals and drives are connected via CAN bus. Communication with higher-level systems is handled by Ethernet.

Ethernet TCP/IP   **Line communication**

Control system, visualization and operation

Mobile Panel

CAN bus

Motion control

Remote I/O systems

System 2003   X67

ACOPOS   ACOPOS

Control system	Mobile Panel: More than just mobile operation and monitoring	873
Motion control	ACOPOS: Intelligent servo drives	1251
	ACOPOSmulti: Modular drive system	1321
Remote I/O systems	X20 System: Slice-based I/O and control system	37
	X67 System: Remote I/O with IP67 protection	419

Mobile operation and monitoring

The control programs are distributed over several PLC stations. Fieldbus systems are used to connect I/O systems and drives to the PLCs. Machine operation and visualization take place on a central MobilePanel, which uses Ethernet to communicate with the controllers.
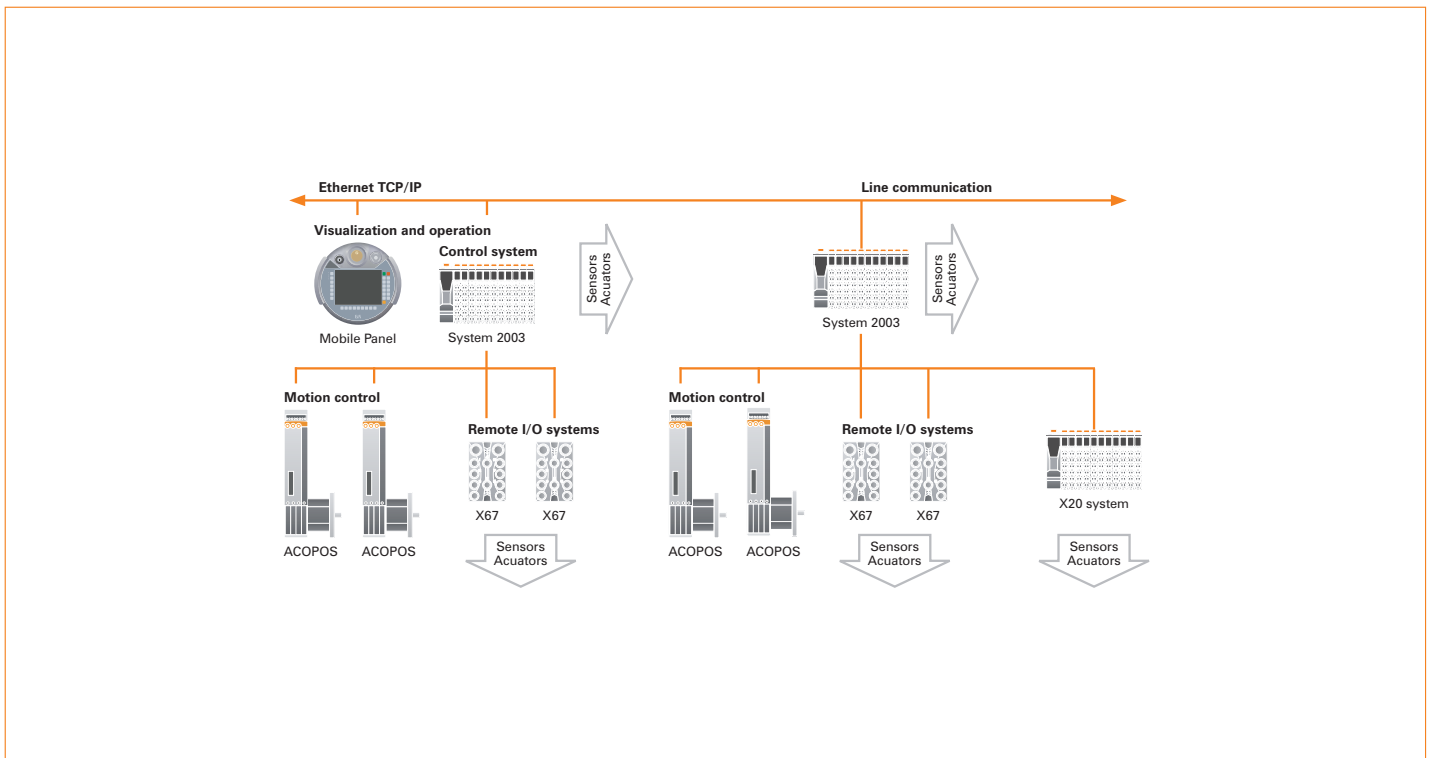
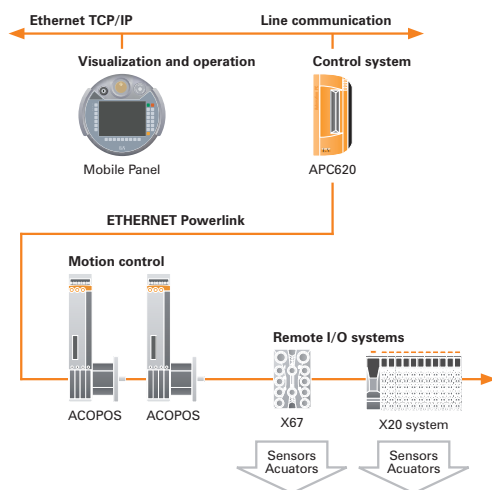|		
Control system	X20 System: Slice-based I/O and control system	37
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	X67 System: Remote I/O with IP67 protection	419

Typical topologies

The mobile thin client

The Mobile Panel with the Windows CE operating system is connected as a thin client to an APC620 or APC810 with Windows XP Professional/Embedded. The control program runs on the industrial PC, and I/O peripherals and drives are connected to the industrial PC via a fieldbus.

Visualization and operation	Mobile Panel: More than just operation and monitoring	▤ 873
Motion control	ACOPOS: Intelligent servo drives	▤ 1251
	ACOPOSmulti: Modular drive system	▤ 1321
Remote I/O systems	X20 System: Slice-based I/O and control system	▤ 37
	X67 System: Remote I/O with IP67 protection	▤ 419
Industrial PC	Automation PC APC620: The modular, fan-free industrial PC	▤ 911
	Automation PC APC810: Highest-level performance with Intel® Core™ 2 Duo processors	▤ 945
	Panel PC: Operation and PC integrated	▤ 985

Product overview

MP100/200 device configuration

	Model number	Name	Number / Combinations	
Operating unit	4MP181.0843-03	Mobile Panel MP181; 8.4" VGA color	Select 1	886
	4MP251.0571-12	Mobile Panel MP251; 5.7" QVGA color		887
	4MP281.0571-12	Mobile Panel MP281; 5.7" QVGA color		887
	4MP281.0843-13	Mobile Panel MP281; 8.4" VGA color		888
	5MP181.0843-07	Mobile Panel MP181 BIOS; 8.4" VGA color		889
Handle	4MPHDL.0000-00	Mobile Panel handle	Select 1	884
Cables	5CAMPH.0018-10	MP100/200 attatchment cable PP 1.8 m	Select 1	904
	5CAMPH.0050-10	MP100/200 attatchment cable PP 5 m		904
	5CAMPH.0100-10	MP100/200 attatchment cable PP 10 m		904
	5CAMPH.0150-10	MP100/200 attatchment cable PP 15 m		904
	5CAMPH.0200-10	MP100/200 attatchment cable PP 20 m		904
Switching cabinet cable	5CAMPC.0020-10	MP switching cabinet cable CO PP 2 m (Ethernet crossover)	Select 1	905
	5CAMPC.0020-11	MP switching cabinet cable ST PP 2 m (Ethernet straight)		905
Wall mount	4MPBRA.0000-00	Mobile Panel wall mount 100/200	Option	903
Connection box	4MPCBX.0000-00	MP connection box	Option	902
	4MPCBX.0001-00	MP connection box, small	Option	902
Box cable	5CAMPB.0100-10	MP box cable PP 10 m (Ethernet crossover)	Option	906

MP40/50 device configuration

	Model number	Name	Number / Combinations	
Operating unit	5MP040.0381-01	MP40 LCD M QVGA 3.8" F SB	Select 1	890
	5MP040.0381-02	MP40 LCD M QVGA 3.8" F SB KS HW		892
	5MP050.0653-01	MP50 TFT C VGA 6.5" FT SB PB HW		894
	5MP050.0653-02	MP50 TFT C VGA 6.5" FT SB KS JS		896
	5MP050.0653-03	MP50 TFT C VGA 6.5" FT SB OP HW		898
	5MP050.0653-04	MP50 TFT C VGA 6.5" FT SB KS HW		900
Cables	5CAMPH.0018-30	MP40/50 attatchment cable PP 1.8 m	Select 1	904
	5CAMPH.0050-30	MP40/50 attatchment cable PP 5 m		904
	5CAMPH.0100-30	MP40/50 attatchment cable PP 10 m		904
	5CAMPH.0150-30	MP40/50 attatchment cable PP 15 m		904
	5CAMPH.0200-30	MP40/50 attatchment cable PP 20 m		904
Switching cabinet cable	5CAMPC.0020-10	MP switching cabinet cable CO PP 2 m (Ethernet crossover)	Select 1	905
	5CAMPC.0020-11	MP switching cabinet cable ST PP 2 m (Ethernet straight)		905
Wall mount	4MPBRA.0000-01	Mobile Panel wall mount 40/50	Option	903
Connection box	4MPCBX.0000-00	MP connection box	Option	902
	4MPCBX.0001-00	MP connection box, small	Option	902
Box cable	5CAMPB.0100-10	MP box cable PP 10 m (Ethernet crossover)	Option	906

Operating units

Model number	Short description	
4MP181.0843-03	Mobile Panel MP181 embedded operating unit 8.4" VGA color TFT display with touch screen (resistive); 19 system keys; key switch and E-stop. 64 MB SDRAM; Compact Flash slot (type I); ETH 10/100; USB 1.1; 24 VDC.	886
4MP251.0571-12	Mobile Panel MP251 embedded operating unit 5.7" QVGA color LCD; 14 soft keys and 19 system keys; key switch and E-stop. 64 MB SDRAM; 256 kB SRAM; CompactFlash slot (type I); ETH 10/100; CAN; USB 1.1; battery; 24 VDC.	887
4MP281.0571-12	Mobile Panel MP281 embedded operating unit 5.7" QVGA color LCD with touch screen (resistive); 14 soft keys and 19 system keys; key switch and E-stop. 64 MB SDRAM; 256 kB SRAM; CompactFlash slot (type I); ETH 10/100; CAN; USB 1.1; battery; 24 VDC.	887
4MP281.0843-13	Mobile Panel MP281 embedded operating unit 8.4" VGA color TFT display with touch screen (resistive); 19 system keys; key switch and E-stop. 64 MB SDRAM; 256 kB SRAM; CompactFlash slot (type I); ETH 10/100; CAN; USB 1.1; battery; 24 VDC.	888
5MP181.0843-07	Mobile Panel MP181 BIOS operating unit 8.4" VGA color TFT display with touch screen (resistive); 19 system keys; key switch and E-stop. 128 MB SDRAM; Compact Flash slot (type I); ETH 10/100; USB 1.1; battery; 24 VDC.	889
5MP040.0381-01	Mobile Panel MP40, 3.8" QVGA LCD monochrome display, Intel PXA 270 processor, 256 MB DRAM, 128 MB flash; ETH 10/100, USB 1.1; 51 system keys, stop button, 2 integrated 3-step enable switches, handle.	890
5MP040.0381-02	Mobile Panel MP40, 3.8" QVGA LCD monochrome display, Intel PXA 270 processor, 256 MB DRAM, 128 MB flash; ETH 10/100, USB 1.1; 51 system keys, stop button, handwheel, key switch; 2 integrated 3-step enable switches, handle.	892
5MP050.0653-01	Mobile Panel MP50, 6.5" VGA TFT color display with touch screen (analog resistive), Intel PXA 270 processor, 256 MB DRAM, 128 MB flash; ETH 10/100, USB 1.1; 31 system keys, stop button, handwheel, push button; 2 integrated 3-step enable switches, handle.	894
5MP050.0653-02	Mobile Panel MP50, 6.5" VGA TFT color display with touch screen (analog resistive), Intel PXA 270 processor, 256 MB DRAM, 128 MB flash; ETH 10/100, USB 1.1; 31 system keys, stop button, joystick, key switch; 2 integrated 3-step enable switches, handle.	896
5MP050.0653-03	Mobile Panel MP50, 6.5" VGA TFT color display with touch screen (analog resistive), Intel PXA 270 processor, 256 MB DRAM, 128 MB flash; ETH 10/100, USB 1.1; 31 system keys, stop button, handwheel, override potentiometer; 2 integrated 3-step enable switches, handle.	898
5MP050.0653-04	Mobile Panel MP50, 6.5" VGA TFT color display with touch screen (analog resistive), Intel PXA 270 processor, 256 MB DRAM, 128 MB flash; ETH 10/100, USB 1.1; 31 system keys, stop button, handwheel, key switch; 2 integrated 3-step enable switches, handle.	900

Product overview

Handle

Model number	Short description	
4MPHDL.0000-00	Mobile Panel 100/200 handle With integrated 3-step enable switch	▤ 903

Cables

Model number	Short description	
5CAMPH.0018-10	MP100/200 attatchment cable PP 1.8 m	▤ 904
5CAMPH.0050-10	MP100/200 attatchment cable PP 5 m	▤ 904
5CAMPH.0100-10	MP100/200 attatchment cable PP 10 m	▤ 904
5CAMPH.0150-10	MP100/200 attatchment cable PP 15 m	▤ 904
5CAMPH.0200-10	MP100/200 attatchment cable PP 20 m	▤ 904
5CAMPC.0020-10	MP switching cabinet cable CO PP 2 m (Ethernet crossover)	▤ 905
5CAMPC.0020-11	MP switching cabinet cable ST PP 2 m (Ethernet straight)	▤ 905
5CAMPH.0018-30	MP40/50 attatchment cable PP 1.8 m	▤ 904
5CAMPH.0050-30	MP40/50 attatchment cable PP 5 m	▤ 904
5CAMPH.0100-30	MP40/50 attatchment cable PP 10 m	▤ 904
5CAMPH.0150-30	MP40/50 attatchment cable PP 15 m	▤ 904
5CAMPH.0200-30	MP40/50 attatchment cable PP 20 m	▤ 904

Wall mount

Model number	Short description	
4MPBRA.0000-00	Mobile Panel wall mount MP100/200	▤ 903
4MPBRA.0000-01	Mobile Panel wall mount MP40/50	▤ 903

Connection box

Model number	Short description	
4MPCBX.0000-00	Mobile Panel connection box	📄 902
4MPCBX.0001-00	Mobile Panel connection box, small	📄 902

Box cable

Model number	Short description	
5CAMPB.0100-10	Mobile Panel box cable PP 10 m (Ethernet crossover)	📄 906

Mobile Panel
MP181 embedded 8.4" TFT color Touch

Controller	4MP181.0843-03
Processor	Geode SC2200 266 MHz, MMX compatible
Main memory	64 MB DRAM
Graphics memory	4 MB shared memory (reserved from the main memory)
SRAM	-
CompactFlash slot	1 slot for Type I CompactFlash cards (behind the cover)
Battery	-
Mode/Node switches [1]	2, 16 positions each (back side)

1) Accessible by removing the handle

Display	4MP181.0843-03
Type	TFT color
Colors	256
Resolution	VGA, 640 x 480 pixels
Diagonal	8.4"
Brightness	120 cd/m²
Half-brightness time	50,000 h
Touch screen	Analog resistive

Keys	4MP181.0843-03
System keys	Number block
	4 system keys
E-stop [1]	Yes (2 N.C., right position)
Key switch [1]	Yes (1 normally open, momentary, left position)

1) Connection via Mobile Panel cable

Interfaces	4MP181.0843-03
Serial	RS232 (RxD and TxD, not modem-capable)
USB	1x USB 1.1, connection type A (behind the cover)
Ethernet [1]	RJ45 twisted pair (10 BaseT / 100 BaseT)

1) Connection via Mobile Panel cable

24 VDC supply	4MP181.0843-03
Input voltage [1]	24 VDC ±25%, electrically isolated

1) Connection via Mobile Panel cable

Environmental conditions	4MP181.0843-03
Temperature	
Operation	0°C to +45°C
Storage	-20°C to +60°C
Relative humidity	
Operation	45 - 85%, non-condensing
Storage	8 - 85%, non-condensing

Mechanics	4MP181.0843-03
Protection type	IP54 (with cable and handle)
Outer dimensions (W x H x D [mm])	
Without handle	306.6 x 76 x 270.6
With handle	306.6 x 175.2 x 270.6
Weight	Approx. 1.9 kg
Drop height	1 m to industrial floor

Required accessories		
5CAMPH.0018-10	MP100/200 attatchment cable PP 1.8 m	📖 904
5CAMPH.0050-10	MP100/200 attatchment cable PP 5 m	📖 904
5CAMPH.0100-10	MP100/200 attatchment cable PP 10 m	📖 904
5CAMPH.0150-10	MP100/200 attatchment cable PP 15 m	📖 904
5CAMPH.0200-10	MP100/200 attatchment cable PP 20 m	📖 904
5CAMPC.0020-10	MP switching cabinet cable CO PP 2 m (Ethernet crossover)	📖 905
5CAMPC.0020-11	MP switching cabinet cable ST PP 2 m (Ethernet straight)	📖 905
	CompactFlash cards	📖 1126

Mobile Panel
MP251/281 embedded 5.7" LCD color (touch screen)

Controller	4MP251.0571-12	4MP281.0571-12
Processor	Geode SC2200 266 MHz, MMX compatible	Geode SC2200 266 MHz, MMX compatible
Main memory	64 MB DRAM	64 MB DRAM
Graphics memory	4 MB shared memory (reserved from the main memory)	4 MB shared memory (reserved from the main memory)
SRAM	256 KB onboard, battery-buffered	256 KB onboard, battery-buffered
CompactFlash slot	1 slot for Type I CompactFlash cards (behind the cover)	1 slot for Type I CompactFlash cards (behind the cover)
Battery	Lithium, 950 mAh	Lithium, 950 mAh
Mode/Node switches [1]	2, 16 positions each (back side)	2, 16 positions each (back side)

1) Accessible by removing the handle

Display	4MP251.0571-12	4MP281.0571-12
Type	LCD color	LCD color
Colors	256	256
Resolution	QVGA, 320 x 240 pixels	QVGA, 320 x 240 pixels
Diagonal	5.7"	5.7"
Brightness	150 cd/m²	150 cd/m²
Half-brightness time	50,000 h	50,000 h
Touch screen	-	Analog resistive

Keys	4MP251.0571-12	4MP281.0571-12
Soft keys	14 (6 with LED)	14 (6 with LED)
System keys	Number block	Number block
	4 system keys	4 system keys
E-stop	Yes (2 N.C., right position)	Yes (2 N.C., right position)
Key switch [1]	Yes (1 normally open, momentary, left position)	Yes (1 normally open, momentary, left position)

1) Connection via Mobile Panel cable

Interfaces	4MP251.0571-12	4MP281.0571-12
Serial	RS232 (RxD and TxD, not modem-capable)	RS232 (RxD and TxD, not modem-capable)
USB	1x USB 1.1, connection type A (behind the cover)	1x USB 1.1, connection type A (behind the cover)
Ethernet [1]	RJ45 twisted pair (10 BaseT / 100 BaseT)	RJ45 twisted pair (10 BaseT / 100 BaseT)
CAN [1]	Yes, electrically isolated	Yes, electrically isolated

1) Connection via Mobile Panel cable

24 VDC supply	4MP251.0571-12	4MP281.0571-12
Input voltage [1]	24 VDC ±25%, electrically isolated	24 VDC ±25%, electrically isolated

1) Connection via Mobile Panel cable

Environmental conditions	4MP251.0571-12	4MP281.0571-12
Operational temperature	0°C to +45°C	0°C to +45°C
Storage temperature	-20°C to +60°C	-20°C to +60°C
Relative humidity - operation	45 - 85%, non-condensing	45 - 85%, non-condensing
Relative humidity - storage	8 - 85%, non-condensing	8 - 85%, non-condensing

Mechanics	4MP251.0571-12	4MP281.0571-12
Protection type	IP54 (with cable and handle)	IP54 (with cable and handle)
Outer dimensions (W x H x D [mm])		
Without handle	306.6 x 76 x 270.6	306.6 x 76 x 270.6
With handle	306.6 x 175.2 x 270.6	306.6 x 175.2 x 270.6
Weight	Approx. 1.65 kg	Approx. 1.65 kg
Drop height	1 m to industrial floor	1 m to industrial floor

Required accessories		
5CAMPH.0018-10	MP100/200 attatchment cable PP 1.8 m	📄 904
5CAMPH.0050-10	MP100/200 attatchment cable PP 5 m	📄 904
5CAMPH.0100-10	MP100/200 attatchment cable PP 10 m	📄 904
5CAMPH.0150-10	MP100/200 attatchment cable PP 15 m	📄 904
5CAMPH.0200-10	MP100/200 attatchment cable PP 20 m	📄 904
5CAMPC.0020-10	MP switching cabinet cable CO PP 2 m (Ethernet crossover)	📄 905
5CAMPC.0020-11	MP switching cabinet cable ST PP 2 m (Ethernet straight)	📄 905
	CompactFlash cards	📄 1126

Mobile Panel
MP281 embedded 8.4" TFT color Touch

Controller	4MP281.0843-13
Processor	Geode SC2200 266 MHz, MMX compatible
Main memory	64 MB DRAM
Graphics memory	4 MB shared memory (reserved from the main memory)
SRAM	256 KB onboard, battery-buffered
CompactFlash slot	1 slot for Type I CompactFlash cards (behind the cover)
Battery [1]	Lithium, 950 mAh
Mode/Node switch [1]	2, 16 positions each (back side)

1) Accessible by removing the handle

Display	4MP281.0843-13
Type	TFT color
Colors	256
Resolution	VGA, 640 x 480 pixels
Diagonal	8.4"
Brightness	120 cd/m²
Half-brightness time	50,000 h
Touch screen	Analog resistive

Keys	4MP281.0843-13
System keys	Number block
	4 system keys
E-stop [1]	Yes (2 N.C., right position)
Key switch [1]	Yes (1 normally open, momentary, left position)

1) Connection via Mobile Panel cable

Interfaces	4MP281.0843-13
Serial	RS232 (RxD and TxD, not modem-capable)
USB	1x USB 1.1, connection type A (behind the cover)
Ethernet [1]	RJ45 twisted pair (10 BaseT / 100 BaseT)
CAN bus [1]	Electrically isolated

1) Connection via Mobile Panel cable

24 VDC supply	4MP281.0843-13
Input voltage [1]	24 VDC ±25%, electrically isolated

1) Connection via Mobile Panel cable

Environmental conditions	4MP281.0843-13
Temperature	
Operation	0°C to +45°C
Storage	-20°C to +60°C
Relative humidity	
Operation	45 - 85%, non-condensing
Storage	8 - 85%, non-condensing

Mechanics	4MP281.0843-13
Protection type	IP54 (with cable and handle)
Outer dimensions (W x H x D [mm])	
Without handle	306.6 x 76 x 270.6
With handle	306.6 x 175.2 x 270.6
Weight	Approx. 1.9 kg
Drop height	1 m to industrial floor

Required accessories		
5CAMPH.0018-10	MP100/200 attatchment cable PP 1.8 m	📄 904
5CAMPH.0050-10	MP100/200 attatchment cable PP 5 m	📄 904
5CAMPH.0100-10	MP100/200 attatchment cable PP 10 m	📄 904
5CAMPH.0150-10	MP100/200 attatchment cable PP 15 m	📄 904
5CAMPH.0200-10	MP100/200 attatchment cable PP 20 m	📄 904
5CAMPC.0020-10	MP switching cabinet cable CO PP 2 m (Ethernet crossover)	📄 905
5CAMPC.0020-11	MP switching cabinet cable ST PP 2 m (Ethernet straight)	📄 905
	CompactFlash cards	📄 1126

Mobile Panel
MP181 BIOS 8.4" TFT color touch

Controller	5MP181.0843-07
Processor	Geode SC2200 266 MHz, MMX compatible
Main memory	128MB DRAM
Graphics memory	4 MB shared memory (reserved from the main memory)
SRAM	
CompactFlash slot	1 slot for Type I CompactFlash cards (behind the cover)
Battery [1]	Lithium, 950 mAh
Mode/Node switch [1]	2, 16 positions each (back side)

1) Accessible by removing the handle

Display	5MP181.0843-07
Type	TFT color
Colors	262.144 [1]
Resolution	VGA, 640 x 480 pixels
Diagonal	8.4"
Brightness	120 cd/m²
Half-brightness time	50,000 h
Touch screen	Analog resistive

1) The actual number of colors depends on the graphics memory, the graphics mode configured, and the graphics driver being used.

Keys	5MP181.0843-07
System keys	Number block
	4 system keys
E-stop [1]	Yes (2 N.C., right position)
Key switch [1]	Yes (1 normally open, momentary, left position)

1) Connection via Mobile Panel cable

Interfaces	5MP181.0843-07
Serial	RS232 (RxD and TxD, not modem-capable)
USB	1x USB 1.1, connection type A (behind the cover)
Ethernet [1]	RJ45 twisted pair (10 BaseT / 100 BaseT)

1) Connection via Mobile Panel cable

24 VDC supply	5MP181.0843-07
Input voltage [1]	24 VDC ±25%, electrically isolated

1) Connection via Mobile Panel cable

Environmental conditions	5MP181.0843-07
Temperature	
Operation	0°C to +45°C
Storage	-20°C to +60°C
Relative humidity	
Operation	45 - 85%, non-condensing
Storage	8 - 85%, non-condensing

Mechanics	5MP181.0843-07
Protection type	IP54 (with cable and handle)
Outer dimensions (W x H x D [mm])	
With handle	306.6 x 175.2 x 270.6
Weight	Approx. 1.9 kg
Drop height	1 m to industrial floor

Required accessories		
5CAMPH.0018-10	MP100/200 attatchment cable PP 1.8 m	904
5CAMPH.0050-10	MP100/200 attatchment cable PP 5 m	904
5CAMPH.0100-10	MP100/200 attatchment cable PP 10 m	904
5CAMPH.0150-10	MP100/200 attatchment cable PP 15 m	904
5CAMPH.0200-10	MP100/200 attatchment cable PP 20 m	904
5CAMPC.0020-10	MP switching cabinet cable CO PP 2 m (Ethernet crossover)	905
5CAMPC.0020-11	MP switching cabinet cable ST PP 2 m (Ethernet straight)	905
	CompactFlash cards	1126

Mobile Panel
MP40 BIOS 3.8" LCD monochrome

Controller	5MP040.0381-01
Processor	Intel PXA 270/416 MHz
Main memory	256 MB
Graphics memory	Reserved in main memory
SRAM	-
CompactFlash slot	-
Battery	-
Mode/node switches	-

Display	5MP040.0381-01
Type	LCD monochrome
Colors	16 shades of gray[1]
Resolution	QVGA 320 x 240 pixels
Diagonal	3.8"
Brightness	110 cd/m²
Half-brightness time	50,000 h

1) The actual number of colors depends on the graphics memory, the graphics mode configured, and the graphics driver being used.

Operation	5MP040.0381-01
Touch screen	-
Keys	
Soft keys	6
System keys	51
LEDs	7
Stop button	Yes (2 N.C., right position)
Enable switch	Yes (two 3-step switches), left and right position
Mounted in the middle	
Electronic handwheel	-
3 axes joystick	-
Mounted on the left	
Illuminated button	-
Key switch	-
Override potentiometer	-

Interfaces	5MP040.0381-01
USB	1x USB 1.1, connection type A (behind the cover)
Ethernet[1]	RJ45 twisted pair (10 BaseT / 100 BaseT)

1) Connection via Mobile Panel cable

24 VDC supply	5MP040.0381-01
Input voltage [1]	24 VDC ± 25%

1) Connection via Mobile Panel cable

Environmental conditions	5MP040.0381-01
Temperature	
Operation	0°C to +50°C
Storage	-20°C to +70°C
Relative humidity	5% - 95% (non-condensing)

Mechanics	5MP040.0381-01
Protection type	IP65
Outer dimensions (W x H x D [mm])	
With handle	250 x 250 x 114
Weight	Approx. 1.1 kg
Drop height	1.5 m to industrial floor

Required accessories		
5CAMPH.0018-30	MP40/50 attatchment cable PP 1.8 m	🗎 904
5CAMPH.0050-30	MP40/50 attatchment cable PP 5 m	🗎 904
5CAMPH.0100-30	MP40/50 attatchment cable PP 10 m	🗎 904
5CAMPH.0150-30	MP40/50 attatchment cable PP 15 m	🗎 904
5CAMPH.0200-30	MP40/50 attatchment cable PP 20 m	🗎 904
5CAMPC.0020-10	MP switching cabinet cable CO PP 2 m (Ethernet crossover)	🗎 905
5CAMPC.0020-11	MP switching cabinet cable ST PP 2 m (Ethernet straight)	🗎 905
5SWWCE.0524-ENG	OEM Microsoft Windows CE 5.0 Pro for MP40 PXA270	🗎 1117
5SWWCE.0624-ENG	OEM Microsoft Windows CE 5.0 ProPlus for MP40 PXA270	🗎 1117
5SWWCE.0724-ENG	OEM Microsoft Windows CE 5.0 ProTCAR (Terminal Client AR) for MP40 PXA270	🗎 1117

Mobile Panel
MP40 BIOS 3.8" LCD monochrome

Controller	5MP040.0381-02
Processor	Intel PXA 270/416 MHz
Main memory	256 MB
Graphics memory	Reserved in main memory
SRAM	-
CompactFlash slot	-
Battery	-
Mode/node switches	-

Display	5MP040.0381-02
Type	LCD monochrome
Colors	16 shades of gray[1]
Resolution	QVGA 320 x 240 pixels
Diagonal	3.8"
Brightness	110 cd/m²
Half-brightness time	50,000 h

1) The actual number of colors depends on the graphics memory, the graphics mode configured, and the graphics driver being used.

Operation	5MP040.0381-02
Touch screen	-
Keys	
Soft keys	6
System keys	51
LEDs	7
Stop button	Yes (2 N.C., right position)
Enable switch	Yes (two 3-step switches), left and right position
Mounted in the middle	
Electronic handwheel	Yes
3 axes joystick	-
Mounted on the left	
Illuminated button	-
Key switch	Yes
Override potentiometer	-

Interfaces	5MP040.0381-02
USB	1x USB 1.1, connection type A (behind the cover)
Ethernet[1]	RJ45 twisted pair (10 BaseT / 100 BaseT)

1) Connection via Mobile Panel cable

24 VDC supply	5MP040.0381-02
Input voltage [1]	24 VDC ± 25%

1) Connection via Mobile Panel cable

Environmental conditions	5MP040.0381-02
Temperature	
Operation	0°C to +50°C
Storage	-20°C to +70°C
Relative humidity	5% - 95% (non-condensing)
Mechanics	**5MP040.0381-02**
Protection type	IP65
Outer dimensions (W x H x D [mm])	
With handle	250 x 250 x 114
Weight	Approx. 1.1 kg
Drop height	1.5 m to industrial floor

Required accessories		
5CAMPH.0018-30	MP40/50 attatchment cable PP 1.8 m	📄 904
5CAMPH.0050-30	MP40/50 attatchment cable PP 5 m	📄 904
5CAMPH.0100-30	MP40/50 attatchment cable PP 10 m	📄 904
5CAMPH.0150-30	MP40/50 attatchment cable PP 15 m	📄 904
5CAMPH.0200-30	MP40/50 attatchment cable PP 20 m	📄 904
5CAMPC.0020-10	MP switching cabinet cable CO PP 2 m (Ethernet crossover)	📄 905
5CAMPC.0020-11	MP switching cabinet cable ST PP 2 m (Ethernet straight)	📄 905
5SWWCE.0524-ENG	OEM Microsoft Windows CE 5.0 Pro for MP40 PXA270	📄 1117
5SWWCE.0624-ENG	OEM Microsoft Windows CE 5.0 ProPlus for MP40 PXA270	📄 1117
5SWWCE.0724-ENG	OEM Microsoft Windows CE 5.0 ProTCAR (Terminal Client AR) for MP40 PXA270	📄 1117

Mobile Panel
MP50 BIOS 6.5" color TFT with touch screen

Controller	5MP050.0653-01
Processor	Intel PXA 270/416 MHz
Main memory	256 MB
Graphics memory	Reserved in main memory
SRAM	-
CompactFlash slot	-
Battery	-
Mode/node switches	-

Display	5MP050.0653-01
Type	TFT color
Colors	65535 [1]
Resolution	VGA 640x480 pixels
Diagonal	6.5"
Brightness	400 cd/m²
Half-brightness time	50,000 h

1) The actual number of colors depends on the graphics memory, the graphics mode configured, and the graphics driver being used.

Operation	5MP050.0653-01
Touch screen	Yes
Keys	
Soft keys	-
System keys	31
LEDs	4
Stop button	Yes (2 N.C., right position)
Enable switch	Yes (two 3-step switches), left and right position
Mounted in the middle	
Electronic handwheel	Yes
3 axes joystick	-
Mounted on the left	
Illuminated button	Yes
Key switch	-
Override potentiometer	-

Interfaces	5MP050.0653-01
USB	1x USB 1.1, connection type A (behind the cover)
Ethernet[1]	RJ45 twisted pair (10 BaseT / 100 BaseT)

1) Connection via Mobile Panel cable

24 VDC supply	5MP050.0653-01
Input voltage [1]	24 VDC ± 25%

1) Connection via Mobile Panel cable

Environmental conditions	5MP050.0653-01
Temperature	
Operation	0°C to +50°C
Storage	-20°C to +70°C
Relative humidity	5% - 95% (non-condensing)
Mechanics	**5MP050.0653-01**
Protection type	IP65
Outer dimensions (W x H x D [mm])	
With handle	250 x 250 x 114
Weight	Approx. 1.1 kg
Drop height	1.5 m to industrial floor

Required accessories		
5CAMPH.0018-30	MP40/50 attatchment cable PP 1.8 m	📄 904
5CAMPH.0050-30	MP40/50 attatchment cable PP 5 m	📄 904
5CAMPH.0100-30	MP40/50 attatchment cable PP 10 m	📄 904
5CAMPH.0150-30	MP40/50 attatchment cable PP 15 m	📄 904
5CAMPH.0200-30	MP40/50 attatchment cable PP 20 m	📄 904
5CAMPC.0020-10	MP switching cabinet cable CO PP 2 m (Ethernet crossover)	📄 905
5CAMPC.0020-11	MP switching cabinet cable ST PP 2 m (Ethernet straight)	📄 905
5SWWCE.0525-ENG	OEM Microsoft Windows CE 5.0 Pro for MP50 PXA270	📄 1117
5SWWCE.0625-ENG	OEM Microsoft Windows CE 5.0 ProPlus for MP50 PXA270	📄 1117
5SWWCE.0725-ENG	OEM Microsoft Windows CE 5.0 ProTCAR (Terminal Client AR) for MP50 PXA270	📄 1117

Mobile Panel
MP50 BIOS 6.5" color TFT with touch screen

Controller	5MP050.0653-02
Processor	Intel PXA 270/416 MHz
Main memory	256 MB
Graphics memory	Reserved in main memory
SRAM	-
CompactFlash slot	-
Battery	-
Mode/node switches	-

Display	5MP050.0653-02
Type	TFT color
Colors	65535 [1]
Resolution	VGA 640x480 pixels
Diagonal	6.5"
Brightness	400 cd/m²
Half-brightness time	50,000 h

1) The actual number of colors depends on the graphics memory, the graphics mode configured, and the graphics driver being used.

Operation	5MP050.0653-02
Touch screen	Yes
Keys	
Soft keys	-
System keys	31
LEDs	4
Stop button	Yes (2 N.C., right position)
Enable switch	Yes (two 3-step switches), left and right position
Mounted in the middle	
Electronic handwheel	-
3 axes joystick	Yes
Mounted on the left	
Illuminated button	-
Key switch	Yes
Override potentiometer	-

Interfaces	5MP050.0653-02
USB	1x USB 1.1, connection type A (behind the cover)
Ethernet[1]	RJ45 twisted pair (10 BaseT / 100 BaseT)

1) Connection via Mobile Panel cable

24 VDC supply	5MP050.0653-02
Input voltage [1]	24 VDC ± 25%

1) Connection via Mobile Panel cable

Environmental conditions	5MP050.0653-02
Temperature	
Operation	0°C to +50°C
Storage	-20°C to +70°C
Relative humidity	5% - 95% (non-condensing)
Mechanics	**5MP050.0653-02**
Protection type	IP65
Outer dimensions (W x H x D [mm])	
With handle	250 x 250 x 114
Weight	Approx. 1.1 kg
Drop height	1.5 m to industrial floor

Required accessories		
5CAMPH.0018-30	MP40/50 attatchment cable PP 1.8 m	▤ 904
5CAMPH.0050-30	MP40/50 attatchment cable PP 5 m	▤ 904
5CAMPH.0100-30	MP40/50 attatchment cable PP 10 m	▤ 904
5CAMPH.0150-30	MP40/50 attatchment cable PP 15 m	▤ 904
5CAMPH.0200-30	MP40/50 attatchment cable PP 20 m	▤ 904
5CAMPC.0020-10	MP switching cabinet cable CO PP 2 m (Ethernet crossover)	▤ 905
5CAMPC.0020-11	MP switching cabinet cable ST PP 2 m (Ethernet straight)	▤ 905
5SWWCE.0525-ENG	OEM Microsoft Windows CE 5.0 Pro for MP50 PXA270	▤ 1117
5SWWCE.0625-ENG	OEM Microsoft Windows CE 5.0 ProPlus for MP50 PXA270	▤ 1117
5SWWCE.0725-ENG	OEM Microsoft Windows CE 5.0 ProTCAR (Terminal Client AR) for MP50 PXA270	▤ 1117

Mobile Panel
MP50 BIOS 6.5" color TFT with touch screen

Controller	5MP050.0653-03
Processor	Intel PXA 270/416 MHz
Main memory	256 MB
Graphics memory	Reserved in main memory
SRAM	-
CompactFlash slot	-
Battery	-
Mode/node switches	-

Display	5MP050.0653-03
Type	TFT color
Colors	65535 [1]
Resolution	VGA 640x480 pixels
Diagonal	6.5"
Brightness	400 cd/m²
Half-brightness time	50,000 h

1) The actual number of colors depends on the graphics memory, the graphics mode configured, and the graphics driver being used.

Operation	5MP050.0653-03
Touch screen	Yes
Keys	
Soft keys	-
System keys	31
LEDs	4
Stop button	Yes (2 N.C., right position)
Enable switch	Yes (two 3-step switches), left and right position
Mounted in the middle	
Electronic handwheel	Yes
3 axes joystick	-
Mounted on the left	
Illuminated button	-
Key switch	-
Override potentiometer	Yes

Interfaces	5MP050.0653-03
USB	1x USB 1.1, connection type A (behind the cover)
Ethernet[1]	RJ45 twisted pair (10 BaseT / 100 BaseT)

1) Connection via Mobile Panel cable

24 VDC supply	5MP050.0653-03
Input voltage [1]	24 VDC ± 25%

1) Connection via Mobile Panel cable

Environmental conditions	5MP050.0653-03
Temperature	
Operation	0°C to +50°C
Storage	-20°C to +70°C
Relative humidity	5% - 95% (non-condensing)

Mechanics	5MP050.0653-03
Protection type	IP65
Outer dimensions (W x H x D [mm])	
With handle	250 x 250 x 114
Weight	Approx. 1.1 kg
Drop height	1.5 m to industrial floor

Required accessories		
5CAMPH.0018-30	MP40/50 attatchment cable PP 1.8 m	🕮 904
5CAMPH.0050-30	MP40/50 attatchment cable PP 5 m	🕮 904
5CAMPH.0100-30	MP40/50 attatchment cable PP 10 m	🕮 904
5CAMPH.0150-30	MP40/50 attatchment cable PP 15 m	🕮 904
5CAMPH.0200-30	MP40/50 attatchment cable PP 20 m	🕮 904
5CAMPC.0020-10	MP switching cabinet cable CO PP 2 m (Ethernet crossover)	🕮 905
5CAMPC.0020-11	MP switching cabinet cable ST PP 2 m (Ethernet straight)	🕮 905
5SWWCE.0525-ENG	OEM Microsoft Windows CE 5.0 Pro for MP50 PXA270	🕮 1117
5SWWCE.0625-ENG	OEM Microsoft Windows CE 5.0 ProPlus for MP50 PXA270	🕮 1117
5SWWCE.0725-ENG	OEM Microsoft Windows CE 5.0 ProTCAR (Terminal Client AR) for MP50 PXA270	🕮 1117

Mobile Panel
MP50 BIOS 6.5" color TFT with touch screen

Controller	5MP050.0653-04
Processor	Intel PXA 270/416 MHz
Main memory	256 MB
Graphics memory	Reserved in main memory
SRAM	-
CompactFlash slot	-
Battery	-
Mode/node switches	-

Display	5MP050.0653-04
Type	TFT color
Colors	65535 [1]
Resolution	VGA 640x480 pixels
Diagonal	6.5"
Brightness	400 cd/m²
Half-brightness time	50,000 h

1) The actual number of colors depends on the graphics memory, the graphics mode configured, and the graphics driver being used.

Operation	5MP050.0653-04
Touch screen	Yes
Keys	
Soft keys	-
System keys	31
LEDs	4
Stop button	Yes (2 N.C., right position)
Enable switch	Yes (two 3-step switches), left and right position
Mounted in the middle	
Electronic handwheel	Yes
3 axes joystick	-
Mounted on the left	
Illuminated button	-
Key switch	Yes
Override potentiometer	-

Interfaces	5MP050.0653-04
USB	1x USB 1.1, connection type A (behind the cover)
Ethernet[1]	RJ45 twisted pair (10 BaseT / 100 BaseT)

1) Connection via Mobile Panel cable

24 VDC supply	5MP050.0653-04
Input voltage [1]	24 VDC ± 25%

1) Connection via Mobile Panel cable

Environmental conditions	5MP050.0653-04
Temperature	
Operation	0°C to +50°C
Storage	-20°C to +70°C
Relative humidity	5% - 95% (non-condensing)

Mechanics	5MP050.0653-04
Protection type	IP65
Outer dimensions (W x H x D [mm])	
With handle	250 x 250 x 114
Weight	Approx. 1.1 kg
Drop height	1.5 m to industrial floor

Required accessories		
5CAMPH.0018-30	MP40/50 attatchment cable PP 1.8 m	📄 904
5CAMPH.0050-30	MP40/50 attatchment cable PP 5 m	📄 904
5CAMPH.0100-30	MP40/50 attatchment cable PP 10 m	📄 904
5CAMPH.0150-30	MP40/50 attatchment cable PP 15 m	📄 904
5CAMPH.0200-30	MP40/50 attatchment cable PP 20 m	📄 904
5CAMPC.0020-10	MP switching cabinet cable CO PP 2 m (Ethernet crossover)	📄 905
5CAMPC.0020-11	MP switching cabinet cable ST PP 2 m (Ethernet straight)	📄 905
5SWWCE.0525-ENG	OEM Microsoft Windows CE 5.0 Pro for MP50 PXA270	📄 1117
5SWWCE.0625-ENG	OEM Microsoft Windows CE 5.0 ProPlus for MP50 PXA270	📄 1117
5SWWCE.0725-ENG	OEM Microsoft Windows CE 5.0 ProTCAR (Terminal Client AR) for MP50 PXA270	📄 1117

Connection box

Mechanics	4MPCBX.0000-00	4MPCBX.0001-00
Material		
Cover	GK-AlSi9Mg (chill casting)	GK-AlSi9Mg (chill casting)
Housing	GK-AlSi11Mg (chill casting)	GK-AlSi11Mg (chill casting)
Paint, color	Powdered RAL7012 fine structure	Powdered RAL7012 fine structure
Dimensions	172 x 158 x 74	157 x 90 x 74
Weight (without attachment cable)	Approx. 1 kg	Approx. 0.5 kg
E-stop	Yes	-
Hot plug button	Yes	-
Electrical characteristics	**4MPCBX.0000-00**	**4MPCBX.0001-00**
Power supply		
Rated voltage	18 - 30 VDC	-
Current requirements	Typically 150 mA	-
Power consumption	Approx. 2 W	-
Environmental characteristics	**4MPCBX.0000-00**	**4MPCBX.0001-00**
Protection type	IP65 (only with screw-on caps and caps installed)	IP65 (only with cap)

Required accessories		
5CAMPB.0100-10	MP box cable PP 10 m (Ethernet crossover)	906

Handle

MP100/200 handle

Brief overview	4MPHDL.0000-00
Outer dimensions (W x H x D [mm])	190 x 79.5 x 183
Weight	540 g
Enable switch	3-step (null, enable, panic position)

MP100/200 wall mount

Brief overview	4MPBRA.0000-00
Outer dimensions (W x H x D [mm])	140 x 305 x 109
Weight	680 g
Material	St37, powder-coated RAL 7016

MP40/50 wall mount

Brief overview	4MPBRA.0000-01
Outer dimensions (W x H x D [mm])	201.4 x 392.9 x 118

Mobile Panel cable

MP100/200 attachment cable

Brief overview	5CAMPH.0018-10	5CAMPH.0050-10	5CAMPH.0100-10	5CAMPH.0150-10	5CAMPH.0200-10
Type	Attachment cable	Attachment cable	Attachment cable	Attachment cable	Attachment cable
Length	1.8 m ± 100 mm	5 m ± 100 mm	10 m ± 100 mm	15 m ± 150 mm	20 m ± 200 mm
Total diameter	10 mm	10 mm	10 mm	10 mm	10 mm
Material	Silicon and halogen-free, flame-retardant PUR outer sheathing				
Minimum flex radius	60 mm	60 mm	60 mm	60 mm	60 mm
Maximum tension stress	140 N	140 N	140 N	140 N	140 N
Standards	Flame retardant in accordance with IEC 60332-1 and VW1 / FT1 in accordance with C-UL, shield damping in accordance with IEC 60096-1 Amendment 2. Mechanical characteristics according to DIN VDE 0472 part 603 test type H (100,000 cycles), oil resistant, hydrolysis resistant according to DIN VDE 0282 part 10				
Permissible operating temperature	-20°C to +80°C	-20°C to +80°C	-20°C to +80°C	-20°C to +80°C	-20°C to +80°C
Non-moving state In motion	-5°C to +60°C	-5°C to +60°C	-5°C to +60°C	-5°C to +60°C	-5°C to +60°C
Cable elements					
Ethernet	Twisted pair cable (10/100 MBit/s); 4 wires				
Enable switch	6 wires				
CAN bus	5 wires				
Entry devices	6 wires				
Power supply	24 VDC and ground, 3 wires				
Serial	RxD, TxD, 3 wires				

MP40/50 attachment cable

Brief overview	5CAMPH.0018-30	5CAMPH.0050-30	5CAMPH.0100-30	5CAMPH.0150-30	5CAMPH.0200-30
Type	Attachment cable	Attachment cable	Attachment cable	Attachment cable	Attachment cable
Length	1.8 m ± 100 mm	5 m ± 100 mm	10 m ± 100 mm	15 m ± 150 mm	20 m ± 150 mm
Total diameter	10 mm	10 mm	10 mm	10 mm	10 mm
Material	Silicon and halogen-free, flame-retardant PUR outer sheathing				
Minimum flex radius	60 mm	60 mm	60 mm	60 mm	60 mm
Maximum tension stress	140 N	140 N	140 N	140 N	140 N
Standards	Flame retardant in accordance with IEC 60332-1 and VW1 / FT1 in accordance with C-UL, shield damping in accordance with IEC 60096-1 Amendment 2. Mechanical characteristics according to DIN VDE 0472 part 603 test type H (100,000 cycles), oil resistant, hydrolysis resistant according to DIN VDE 0282 part 10				
Permissible operating temperature	-20°C to +80°C	-20°C to +80°C	-20°C to +80°C	-20°C to +80°C	-20°C to +80°C
Non-moving state In motion	-5°C to +60°C	-5°C to +60°C	-5°C to +60°C	-5°C to +60°C	-5°C to +60°C
Cable elements					
Ethernet	Twisted pair cable (10/100 MBit/s); 4 wires				
Enable switch	4 wires				
Power supply	24 VDC and ground, 2 wires				
Stop button	RxD, TxD, 4 wires				

Switching cabinet cable for MP100/200 or MP40/50

Brief overview	5CAMPC.0020-10	5CAMPC.0020-11
Type	Switching cabinet cable	Switching cabinet cable
	Ethernet crossover	Ethernet straight through
Length	2 m ± 50 mm	2 m ± 50 mm
Total diameter	10 mm	10 mm
Material	Silicon and halogen-free, flame-retardant PUR outer sheathing	
Minimum flex radius	60 mm	60 mm
Maximum tension stress	140 N	140 N
Standards	Flame retardant in accordance with IEC 60332-1 and VW1 / FT1 in accordance with C-UL, shield damping in accordance with IEC 60096-1 Amendment 2. Mechanical characteristics according to DIN VDE 0472 part 603 test type H (100,000 cycles), oil resistant, hydrolysis resistant according to DIN VDE 0282 part 10	
Permissible operating temperature		
Non-moving state	-20°C to +80°C	-20°C to +80°C
In motion	-5°C to +60°C	-5°C to +60°C
Cable elements		
Ethernet	Twisted pair cable (10/100 MBit/s); 4 wires	
Enable switch	4 wires	
CAN bus	5 wires	
Entry devices	6 wires	
Power supply	24 VDC and ground, 3 wires	
Serial	RxD, TxD, 3 wires	

Cabling

The Mobile Panel is connected using a single cable that includes all supply, communication, and control lines. The cable can be plugged into the switching cabinet. The other end in the switching cabinet is a 2 m cable with open ends (Ethernet with RJ45 plug) for simple wiring.
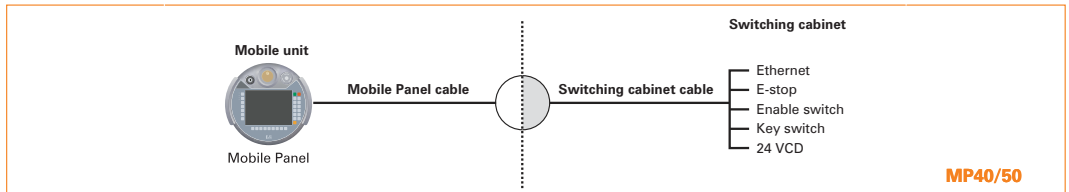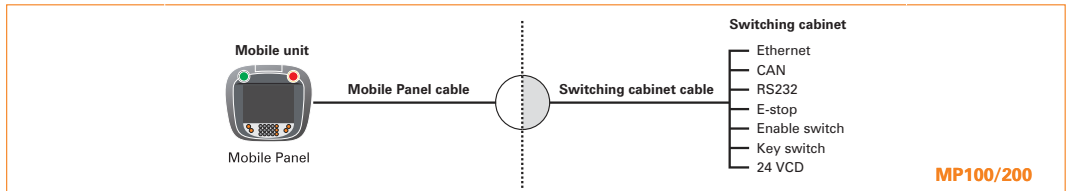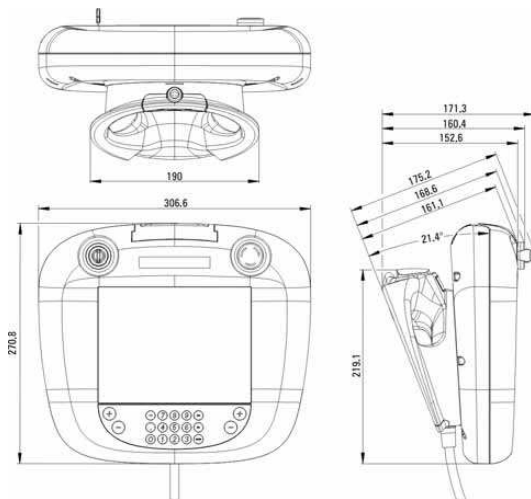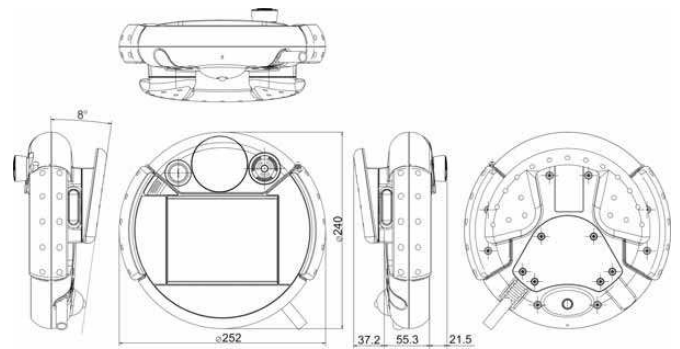
Box cable

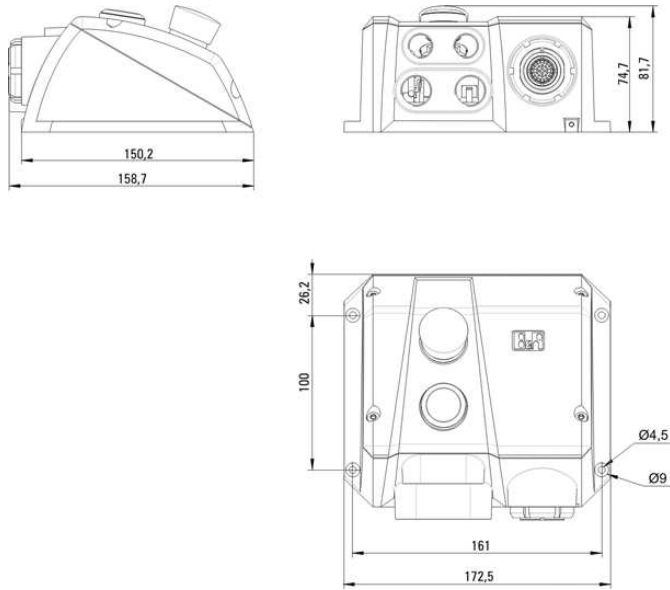| Brief overview	5CAMPB.0100-10
Type	Box cable Ethernet crossover
Length	10 m ± 100 mm
Total diameter	10 mm
Material	Silicon and halogen free, flame retardant PUR outer sheathing
Minimum flex radius	60 mm
Maximum tension stress	140 N
Standards	Flame retardant according to IEC 60332-1 and VW1 / FT1 according to C-UL
	Shield damping according to IEC 60096-1, amendment 2
	Mechanical characteristics according to DIN VDE 0472 section 603 test type H (100000 cycles)
	Oil resistant, hydrolysis resistant according to DIN VDE 0282 section 10
Permissible operating temperature	
Non-moving state	-20℃ to +80℃
In motion	-5℃ to +60℃
Cable elements	
Network	Twisted pair cable (10/100 MBit/s); 4 wires
Enable switch	6 wires
2 x CAN bus	5 wires
Entry devices	6 wires
Power supply	24 VDC and ground, 3 wires
Serial connection (RxD / TxD)	RxD, TxD, 3 wires

Dimensions

171,3
160,4
152,6
190
306,6
175,2
168,6
161,1
21,4°
270,8
219,1

Mobile Panel 100/200 dimensions

8°
Ø240
Ø252
37,2 55,3 21,5

Mobile Panel 40/50 dimensions

All dimensions in mm

Connection box dimensions

150,2
158,7
74,7
81,7
26,2
100
Ø4,5
Ø9
161
172,5
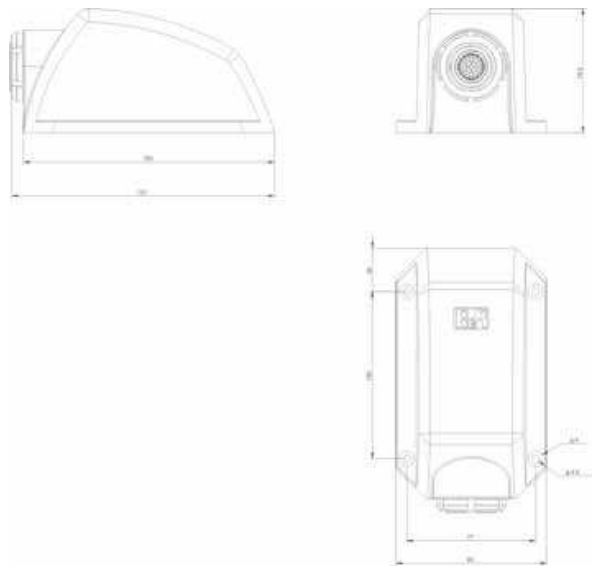
Small connection box dimensions

All dimensions in mm