Products need labeling

Print modules
for industrial use

PX Q
Made in Germany

Print modules PX

Full functionality, high reliability, comfortable operation and low downtime related to maintenance! The PX Q print and peel-off module has been designed specifically for printing and labeling fully automatically in industrial applications. It can be integrated in any orientation of assembly to solve even complex marking tasks.

A torsion-resistant cast aluminum construction is basis to assemble all the components of the print mechanics. Food-safe coating and stainless steel casings add to the perfect shape with special features. Screwing is compatible to the devices of competitors.

The universal one
Industrial device for accurate imprint

Print module		PX Q4.3		PX Q4	
Printable resolution	dpi	203	300	300	600
Print speed	up to mm/s	300	300	300	150
Print width	up to mm	104	108.4	105.7	105.7

The wide one
Suitable for Odette and UCC labels

Print module		PX Q6.3	
Printable resolution	dpi	203	300
Print speed	up to mm/s	250	250
Print width	up to mm	168	162.6

Directions of label transfer

PX Q print module 'L'

to the left

PX Q print module 'R'

to the right

All the print modules are provided as left-hand and right-hand versions. As for printable resolutions, PX Q users can choose from 300 and 600 dpi, the PX Q4.3 and PX Q6.3. offer 203 and 300 dpi.

Details

❶ Operation panel
Operating the device is intuitive and simple with the help of self-explanatory symbols to configure settings

❷ Ribbon holder
Three-part tightening axles enable the ribbon to be replaced quickly and easily.

❸ Rugged metal chassis
made of cast aluminum; basis to assemble all units

❹ Plungers
One plunger is fixed on the inner side. A second one is moved that far to the label margin, until a good print image evokes.

❺ Print head
All print heads are freely interchangeable at equal width. Easy replacement

❻ Automatic ribbon saving (option)
The print head is lifted during label feed and the ribbon is stopped.

❼ Print roller removal
It can be easily removed or inserted in the cases of cleaning or wear.

❽ Simple replacement of materials
Label materials are inserted until lateral stop.
The print head and wipe-down rollers are locked by levers.

❾ Label sensor
A gap sensor or a reflective sensor position the imprint precisely on the label and detect the end of the material.

❿ Material backfeed
After a label has been peeled off, the next one can be retracted to behind the print line. By this, the whole label can be printed and adhesive leaking is avoided during a longer pause. In case sensitive materials are processed and to prevent the ribbon from wrinkling, the print head can be lifted.

Imprint accuracy
The smaller a label, the higher are the requirements on the imprint accuracy. With the help of the adjustable slip correction, print offset can be reduced by ±0.2 mm.
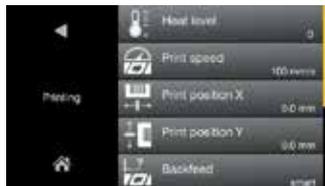
Operation panel

Operating the device is intuitive and simple with the help of self-explanatory symbols to configure settings.

❶ **LED signal:** Power ON

❶ **Status bar**: data reception, record data stream, ribbon pre-warning, SD memory card / USB memory stick plugged in, Bluetooth, WLAN, Ethernet, USB slave, time

❸ **Printer status:** Ready, Pause, number of labels printed in a print job, label in peel-off position, awaiting external start signal

❹ **USB slot** to connect the Service Key or a memory stick, in order to transfer data to the IFFS memory

❺ **Operation**

  Print label

  Jump to menu

  Reprint last label

  Interrupt and continue print job

  Stop and delete all print jobs

  Label feed
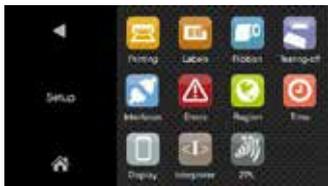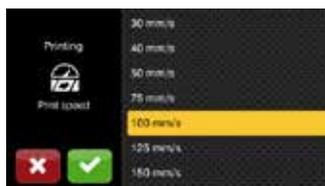
Setup options

Print parameters

Print position Y

Print speeds

Depending from the orientation of assembly, display is either in landscape or portrait mode.

Printer rotated by 90°

Video tutorials

External operation panel

providing the same functionality as on the printer

Display in landscape or portrait mode

Users are free to choose whether to operate the printer on the external panel or on the one integrated in the device.

Printer connection: USB 2.0 Hi-speed device

❶ **LED signal:** Power ON

❷ **USB slot** to connect the Service Key or a memory stick, in order to transfer data to the IFFS memory

❸ **Connecting cable USB**, lengths 1.8 to 16 m
If length succeeds 3 m, use only specified cables.
For dimensions see assembly instructions

Print heads

All print heads are freely interchangeable at equal width. They are automatically detected and calibrated by the CPU. The print distance to the locating edge can be adjusted.

Major data such as running performance, maximum operating temperature and heat energy are directly stored in the print head. The data can be read at the plant.

Print heads for print module PX Q4 - 300, 600 dpi
providing sharp-edged print images
suitable for small fonts and graphics on typeplates
suitable for markings on materials with high energy needs

Print heads for print modules PX Q4.3 and PX Q6.3 - 203, 300 dpi
durable; suitable for rough surroundings and thermal direct printing

Print rollers

Two types of material:

Print rollers DR
Coating: synthetic rubber
They suit for highly accurate imprint and are provided as standard.

Print rollers DRS
Coating: silicone
They have an extra long service life at a higher imprint tolerance.

Interfaces

❶ to connect a **SD memory card**

❷ **2 x USB Host** to connect a Service Key, USB memory stick, keyboard, USB Bluetooth adapter, USB WLAN stick, an external operation panel

❸ **USB 2.0 Hi-speed device** to connect a PC

❹ **Ethernet 10/100 Mbit/s**

❺ **RS232C** 1,200 to 230,400 baud/8 bit
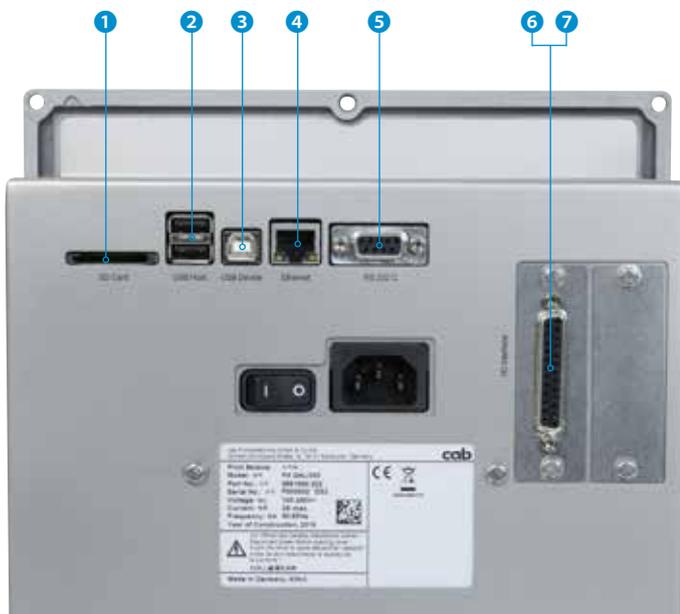
Digital I/O interfaces; compliant with IEC/EN 61131-2, type 1+3
All inputs and outputs are galvanically isolated and protect from reverse polarity. In addition, outputs are short circuit protected.

❻ **Digital I/O interface 24 VDC;** 25 pin SUB-D socket connector

Inputs PNP	Outputs PNP, NPN
Label feed	Pre-warning to ribbon ending
Reprint	Paper feed ON
Start printing	Printing started
Pause	Error - end of ribbon
Label removed	Error - end of labels
Reset - memory deleted	Print data available
Reset - memory not deleted	Device ready
	Label in peel-off position
	Printer error

❼ **Digital I/O interface 5 VDC; 15 pin** SUB-D socket connector

Inputs PNP	Outputs PNP, NPN
Label feed	Pre-warning to ribbon ending
Reprint	Paper feed ON
Start printing	Error - end of ribbon
Reset - memory not deleted	Error - end of labels
	Print data available
	Label in peel-off position
	Printer error

Accessory:
2-Port Ethernet Switch 10/100 Mbit/s

Technical data

● typical ■ standard □ option

Print module	Type	PX Q4.3		PX Q4		PX Q6.3	
Printing method	Thermal transfer	●	●	●	●	●	●
	Thermal direct	●	●	–	–	●	●
Printable resolution	dpi	203	300	300	600	203	300
Print speed	up to mm/s	300	300	300	150	250	250
Print width	up to mm	104	108.4	105.7	105.7	168	162.6
Direction of label transfer		L to the left or R to the right					
Print distance to locating edge	for L and R mm	1	1	1	1	1	1
	with autom. saving L/R mm	3,2/2,6	1/0,4	2/2	2/2	1,2/1,2	3,9/3,9
Material							
Labels		Paper, PET, PE, PP, PI, PVC, PU, acrylate, Tyvec					
Labels[1]	Width mm	20 - 116		20 - 116		46 - 176	
	Height from mm	4		4		6	
	Thickness up to mm	0.60		0.60		0.60	
Liner material	Width mm	24 - 120		24 - 120		50 - 180	
	Thickness up to mm	0.16		0.16		0.16	
Ribbon[2]	Ink side	outside or inside					
	Roll diameter up to mm	90					
	Core diameter mm	25.4					
	Variable length up to m	600					
	Width mm	25 - 114		25 - 114		50 - 170	
	Automatic saving	□		□		□	
Print module dimensions and weights							
Width x Height x Depth	mm	245 x 300 x 333				245 x 300 x 393	
Weight	kg	11.5				12	
Label sensor with position indication							
Gap sensor	for	labels, punch marks or print marks and end of material					
Reflective sensor reflex from below	for	print marks on non-transparent liner materials and end of material					
Distance of sensor to locating edge	mm	5 - 60		5 - 60		5 - 60	
Material passage	mm	2					
Electronics							
Processor 32 bit clock rate	MHz	800					
Main memory (RAM)	MB	256					
Data memory (IFFS)	MB	50					
Slot to connect a SD memory card (SDHC, SDXC)		■					
Battery for time and date, real-time clock		■					
Data memory when power is switched off (e.g. serial numbering)		■					
Interfaces							
RS232C 1,200 to 230,400 baud/8 bit		■					
USB 2.0 Hi-speed device to connect a PC		■					
Ethernet 10/100 Mbit/s		LPD, IPv4, IPv 6, RawIP printing, DHCP, HTTP, FTP, SMTP, SNMP, TIME, NTP, Zeroconf, SOAP web service					
1 x USB host on the operation panel	for	Service Key, USB memory stick, USB WLAN stick, USB Bluetooth adapter					
2 x USB host on the back of the device	for	keyboard, barcode scanner, USB memory stick, USB WLAN stick, USB WLAN stick with a rod antenna, USB Bluetooth adapter, external operation panel					
Digital I/O interface 24 VDC with 10 inputs and 11 outputs		■					
Digital I/O interface 5 VDC with 4 inputs and 4 outputs		□					
2-Port Ethernet Switch 10/100 Mbit/s		□					
Operating data							
Power supply		100-240 VAC, 50/60 Hz, PFC					
Power consumption		Standby < 10 W / typical 150 W / up to 300 W					
Temperature / humidity	Operation	+5 - 40°C / 10 - 85 %, not condensing					
	Stock	0 - 60°C / 20 - 85 %, not condensing					
	Transport	–25 - 60°C / 20 - 85 %, not condensing					
Approvals		CE, FCC Class A, CB, cULus, CCC					

[1] Limitations may apply to small labels, thin materials or strong adhesives. Critical applications need to be tested.
[2] The ribbon should at least correspond with the width of the liner material.

Technical data

■ standard □ option

Operation panel

Colored LCD touch display	Screen diagonal	"	4.3
	Resolution Width x Height	px	480 x 272

Setup options

	Print Labels Ribbon Peel-off Apply Interfaces Error	Region: - Language - Country - Keyboard - Time zone Time Display: - Brightness - Power saving mode - Orientation Interpreter

Status bar

	Data reception Record datastream Ribbon warning SD memory card plugged in USB memory stick plugged in	Bluetooth WLAN Ethernet USB slave Time

Monitoring

	Ribbon	Direction of winding Pre-warning End of material	Print roller for backfeed open
	Labels	End of material	
	Print head	Voltage Temperature open	

Test routines

System diagnostics	on start-up, including print head detection	
Information display, test printout, analysis	Status printout Fonts list List of devices WLAN status Record print data on memory card	Test grid Label profile List of events Monitor mode

Status reports	- Printout of device settings,
	  e.g. print lengths and service hours
	- Device status request by software command
	- Display of, e.g., network errors, no links,
	  barcode errors, periphery errors, etc.	

Fonts

Font types provided internally	5 Bitmap fonts: 12 x 12 dots 16 x 16 dots 16 x 32 dots OCR-A OCR-B	7 vector fonts: AR Heiti Medium GB-Mono CG Triumvirate Condensed Bold Garuda HanWangHeiLight Monospace 821 Swiss 721 Swiss 721 Bold
to be stored	TrueType fonts	
Character sets	Windows-1250 to -1257 DOS 437, 737, 775, 850, 852, 857, 862, 864, 866, 869 EBCDIC 500 ISO 8859-1 to -10 and -13 to -16 WinOEM 720 UTF-8 MacRoman DEC MCS KOI8-R	
	Western European Eastern European Chinese simplified Chinese traditional Thai	Cyrillic Greek Latin Hebrew Arabic

cab uses free and Open Source Software in its products.
For information see **www.cab.de/opensource**

Fonts

Bitmap fonts	Widths and heights 1 - 3 mm Zoom factors 2 to 10 Orientations 0°, 90°, 180°, 270°
Vector-/ TrueType fonts	Widths and heights 0,9 - 128 mm Continuous zoom Orientation 360° in steps of 1°
Font styles	bold, italic, underlined, outline, inverse - depending from the font types
Character spacing	variable or monospace for fixed character spacings

Graphics

Graphic elements	Lines, arrows, rectangles, circles, ellipses - filled or filled with fading
Graphic formats	PCX, IMG, BMP, TIF, MAC, GIF, PNG

Barcodes

Linear	Code 39, Code 93 Code 39 Full ASCII Code 128 A, B, C EAN 8, 13 EAN/UCC 128/GS1-128 EAN/UPC Appendix 2 EAN/UPC Appendix 5 FIM HIBC	Interleaved 2/5 Ident and routing code of Deutsche Post Codabar JAN 8, 13 MSI Plessey Postnet RSS 14 UPC A, E, E0
2D and stacked	DataMatrix DataMatrix Rectangle Extension QR code Micro QR code GS1 QR code GS1 DataMatrix PDF 417 Micro PDF 417 UPS MaxiCode GS1 DataBar Aztec Codablock F Dotcode RSS 14 truncated, limited, stacked, stacked omni-directional	
	All codes are variable in terms of height, modular width and ratio; orientations 0°, 90°, 180°, 270° check digit, plain text printout and start / stop code are options depending from the type of code	

Software

Label software	cablabel S3 Lite	■
	cablabel S3 Viewer	■
	cablabel S3 Pro	□
	cablabel S3 Print	□
Running also with	CODESOFT NiceLabel BarTender	
Stand-alone operation		■
Windows printer drivers WHQL certified for	Windows Vista Windows 7 Windows 8 Windows 8.1 Windows 10	Server 2008 Server 2008 R2 Server 2012 Server 2012 R2 Server 2016 Server 2019	■
Apple Mac OS X printer drivers	from version 10.6	■
Linux printer drivers	from CUPS 1.2	■
Programming	JScript printer language	■
	abc Basic Compiler	■
Integration	SAP	■
	Database Connector	■
Emulation	ZPL (Datastream to be tested in advance)	□
Administration	Printer control	■
	Configuration in Intranet and Internet	■
	Network Manager (in preparation)	■

Label software cablabel S3

Designing, printing, administrating

cablabel S3 opens up the full potential of cab devices.
First of all, the label must be designed. cablabel S3 is of a modular
design which makes it adaptable to requirements step by step.
To support functions like native JScript programming, elements
such as the JScript Viewer are embedded as plug-ins.
The designer user interface and the JScript code are synchronized
in real time. Special functions like the Database Connector
or barcode testers can be integrated.

For further information see
www.cab.de/en/cablabel

Stand-alone printing

This operating mode is the printer's ability to select and print
labels even when it is not connected to a host system.

The label has to be designed with a software such as cablabel S3
or by direct programming with a text editor on a PC. Label formats,
texts, graphics as well as database contents are stored on a
memory card, a USB memory stick or in the internal IFFS memory.

Only variable data are sent to the printer via a keyboard,
a barcode scanner, scales or other host systems and/or
recalled by the Database Connector from the host and printed.

OPC UA

cab printers of the current generation are ready to interact
with machines and components of different manufacturers
in industrial plants.

An OPC UA server and client is part of the firmware.

The server enables printer configuration and control,
while dynamic print data can be prepared via a
defined programming interface.

With a client integrated, data fields from other OPC UA-enabled
machines can be read and put on the label without the need
for an additional software component.
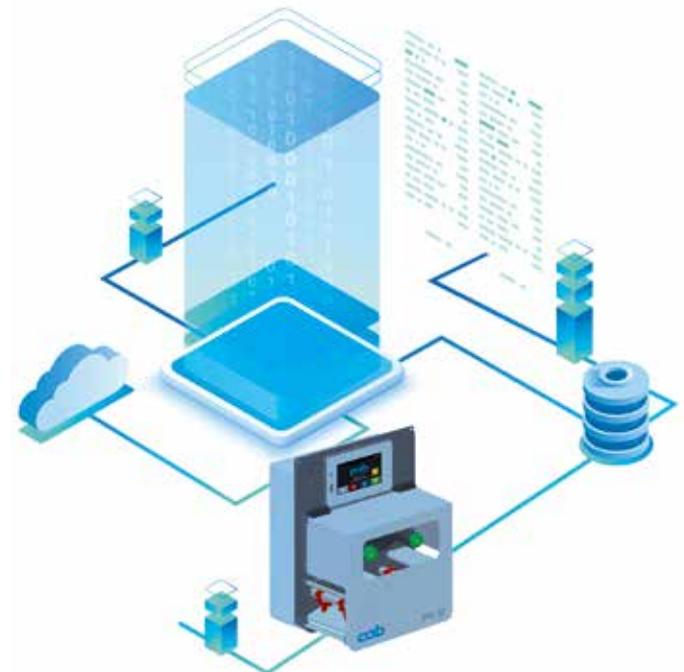
Printer control

Drivers

To control the printer with a software other than cablabel S3, cab provides drivers in 32 / 64 bit for operating systems starting from Windows Vista, Mac OS 10.6 and Linux with CUPS 1.2.

Windows[1] drivers
cab printer drivers are WHQL-certified. They ensure optimum stability on the Windows operating system.

Mac OS X[2][3] drivers
cab provides CUPS-based printer drivers for Mac OS X applications.

Linux[3] drivers
Linux drivers are CUPS-based.

Drivers are offered on the DVD delivered with the printer and for free download at **www.cab.de/en/support**

Programming

JScript
To control the printer, cab has developed the embedded programming language JScript. See manual for free download at **www.cab.de/en/programming**
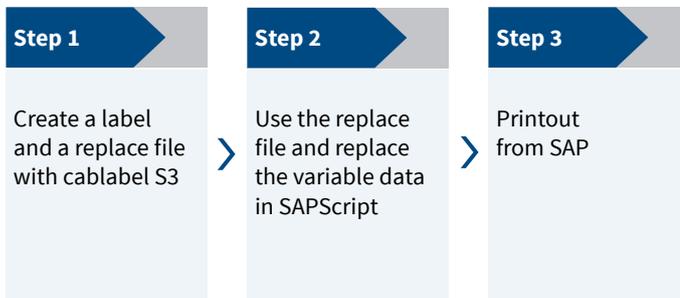
abc Basic Compiler
In addition to JScript and as an integral part of the firmware, it allows advanced printer programming before data are sent to printout. For example, external printer languages can be replaced without interfering in the current print job. Also data from other systems such as a scale, a barcode scanner or PLC can be integrated.

Integration

Printer Vendor Program
As a partner in SAP's[4] Printer Vendor Program, cab has developed a replace method to enable easy control of a cab printer via SAPScript from SAP R/3. Only variable data are sent to the printer by the host. Pictures and fonts that had priorly been stored in the local memory (IFFS, memory card, etc.) are merged.

| Step 1	Step 2	Step 3
Create a label and a replace file with cablabel S3	Use the replace file and replace the variable data in SAPScript	Printout from SAP

Printer administration

Configuration in Intranet and Internet

The HTTP and FTP server integrated in the printer via standard programs like a web browser or FTP clients allows printer control and configuration, firmware updates and memory card administration. Via email or SNMP, the SNMP and SMTP client datagram sends status, warning and error messages to administrators and users. Time and date are synchronized by a time server.

Network Manager in preparation

It is possible to simultaneously manage several printers within the network. Control, configuration, firmware updates, memory card administration, data synchronization and PIN administration are supported from one single location.
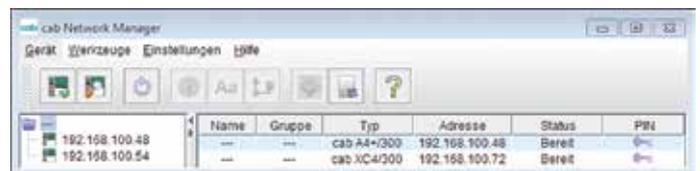
Database Connector

Printers connected to a network may directly access data from a central ODBC or OLEDB-ready database and print it on a label. While printing, data can be rewritten to the database.

[1] Windows is a registered trademark of Microsoft Corporation
[2] MAC OS X is a registered trademark of Apple Computer, Inc.
[3] Only for device series SQUIX (except of SQUIX MT), MACH 4S, EOS, HERMES Q and PX
[4] SAP and all corresponding logos are trademarks or registered trademarks of SAP SE

Accessories

2.1		**SD memory card** 8 GB
2.2		**USB memory stick** 8 GB
2.3		**USB WLAN stick** 2.4 GHz 802.11b/g/n Hotspot or Infrastructure Mode
2.4		**USB WLAN stick with a rod antenna** for extended reach 2.4 GHz 802.11b/g/n + 5 GHz 802.11a/n/ac Hotspot or Infrastructure Mode
2.5		**USB Bluetooth adapter**
2.6		**2-Port Ethernet Switch 10/100 Mbit/s**
2.7		**I/O interface connector SUB-D, 25 pin** with clamping screws to connect all control signals to the I/O interface
2.8		**I/O interface connector SUB-D, 15 pin** with clamping screws to connect a cable
2.9		**Print rollers DRS** Coating: silicone They have an extra long service life at a higher imprint tolerance.

2.10		**External operation panel** If the operation panel is not accessible after printer installation, an external one can be additionally connected.
		Connecting cable USB, length 1.8 m
		Connecting cable USB, length 3 m
		Connecting cable USB, length 5 m
		Connecting cable USB, length 11 m
		Connecting cable USB, length 16 m
2.11		**Label selection – I/O box** Up to 16 different labels can be selected from a memory card by a master control, e.g. PLC.
2.12		**Connecting cable RS232 C** 9/9 pin, length 3 m
2.13		**Interface cover** to prevent slots from humidity and contamination

Functionality of the device and compliance to CE standards are guaranteed only in association with accessories provided or recommended by cab.

Delivery program

Pos.		Part no.	Devices dpi	Part no.	Print heads dpi	Part no.	Print rollers
1.1		5591501.xxx 5591502.xxx 5591503.xxx 5591504.xxx	Print module PX Q4.3L/200 Print module PX Q4.3L/300 Print module PX Q4L/300 Print module PX Q4L/600	5977382.001 5977383.001 5977444.001 5977380.001	Print head 4.3 200 Print head 4.3 300 Print head 4 300 Print head 4 600	5954180.001	Print roller DR4
1.2		5591505.xxx 5591506.xxx	Print module PX Q6.3L/200 Print module PX Q6.3L/300	5977386.001 5977387.001	Print head 6.3 200 Print head 6.3 300	5954245.001	Print roller DR6
1.1		5591510.xxx 5591511.xxx 5591512.xxx 5591513.xxx	Print module PX Q4.3R/200 Print module PX Q4.3R/300 Print module PX Q4R/300 Print module PX Q4R/600	5977382.001 5977383.001 5977444.001 5977380.001	Print head 4.3 200 Print head 4.3 300 Print head 4 300 Print head 4 600	5954180.001	Print roller DR4
1.2		5591514.xxx 5591515.xxx	Print module PX6.3R/200 Print module PX6.3R/300	5977386.001 5977387.001	Print head 6.3 200 Print head 6.3 300	5954245.001	Print roller DR6

.xxx	Device options
.201	Digital I/O interface 24 VDC
.202	Digital I/O interface 24 VDC with automatic saving
.203	Digital I/O interface 5 VDC
.204	Digital I/O interface 5 VDC with automatic saving

	Scope of delivery
DVD:	Print module PX Q Power cable Type E+F, length 1.8 m Connecting cable USB, length 1.8 m Assembly instructions DE/EN/FR Assembly instructions DE/EN/FR Configuration manual DE/EN/FR Service manual DE/EN Spare parts list DE/EN Programming manual EN Windows printer drivers WHQL certified for Windows Vista Server 2008 Windows 7 Server 2008 R2 Windows 8 Server 2012 Windows 8.1 Server 2012 R2 Windows 10 Server 2016 Server 2019 cablabel S3 Lite and Viewer Database Connector (activation excluded)

Delivery program

Pos.		Part no.	Accessories
2.1		**5977370**	SD memory card 8 GB
2.2		**5977730**	USB memory stick 8 GB
2.3		**5978912.001**	USB WLAN stick 2.4 GHz 802.11b/g/n
2.4		**5977731**	USB WLAN stick with a rod antenna 2.4 GHz 802.11b/g/n + 5 GHz a/n/ac
2.5		**5977732**	USB Bluetooth adapter
2.6		**6010520**	2-Port Ethernet Switch 10/100 Mbit/s
2.7		**5917651**	I/O interface connector SUB-D, 25 pin
2.8		**5917652**	I/O interface connector SUB-D, 15 pin
2.9		**5954985.001**	Print roller DRS4
		5954979.001	Print roller DRS6
2.10		**6010186**	External operation panel
		5907718	Connecting cable USB, 1.8 m
		5907730	Connecting cable USB, 3 m
		5907750	Connecting cable USB, 5 m
		5907760	Connecting cable USB, 11 m
		5907765	Connecting cable USB, 16 m
2.11		**5948205**	Label selection - I/O box
2.12		**5550818**	Connecting cable RS232 C 9/9 pin, length 3 m
2.13		**5965040**	Interface cover

Pos.		Part no.	Label software
11.9		Bundle	cablabel S3 Lite (Download at cab.de/en)
		5588001	cablabel S3 Pro, 1 WS
		5588100	cablabel S3 Pro, 5 WS
		5588101	cablabel S3 Pro, 10 WS
		5588150	cablabel S3 Pro, 1 add. licence
		5588151	cablabel S3 Pro, 4 add. licences
		5588152	cablabel S3 Pro, 9 add. licences
		5588002	cablabel S3 Print, 1 WS
		5588105	cablabel S3 Print, 5 WS
		5588106	cablabel S3 Print, 10 WS
		5588155	cablabel S3 Print, 1 add. licence
		5588156	cablabel S3 Print, 4 add. licences
		5588157	cablabel S3 Print, 9 add. licences
		in preparation	cablabel S3 Print Server
11.10		**9008486**	Programming manual EN, printed copy

Scopes of delivery, design and technical specifications correspond to the date of the printing. Subject to change. The data provided in the catalog do not represent any warranty or guarantee.

Information is also available on the Internet:
www.cab.de/en/pxq

Dimensions
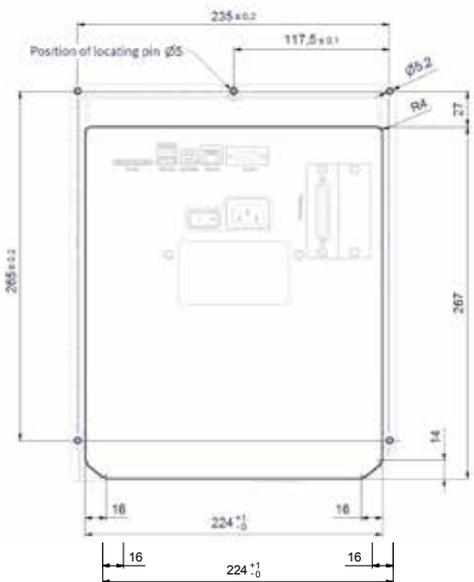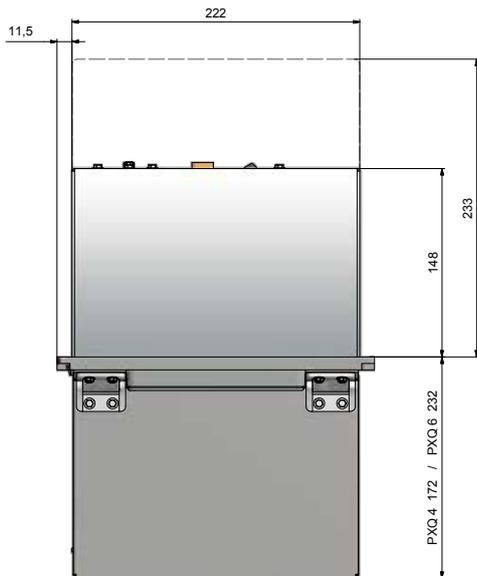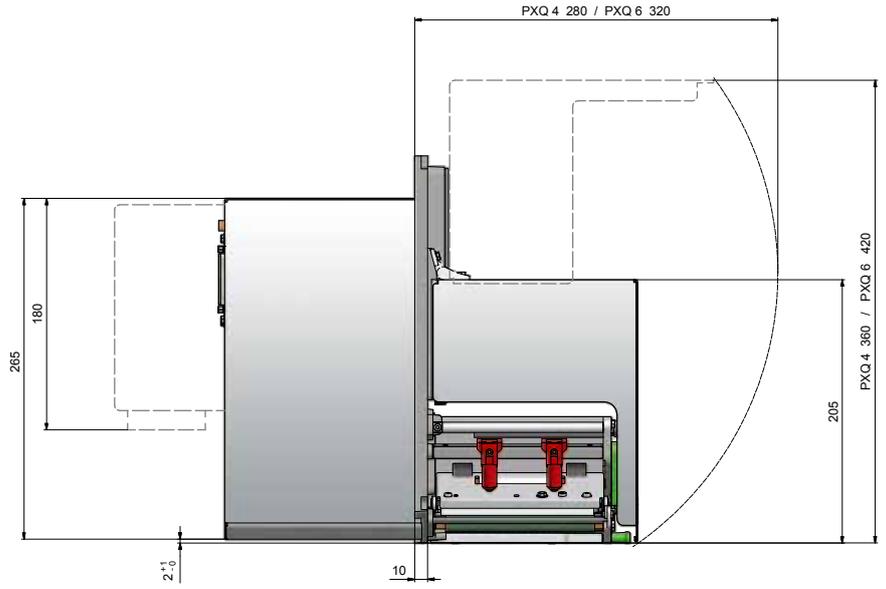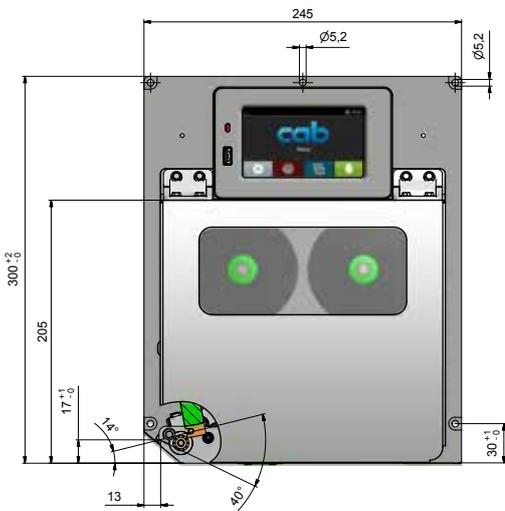
Weight of print module	PX4.3	PX4	PX6.3
kg	11.5	11.5	12

cab product overview

Label printers MACH1, MACH2
in the lower price segment

Label printers MACH 4S
where little space is available

Label printers EOS2
Desktop device for label rolls
up to diameter 152 mm

Label printers EOS5
Desktop device for label rolls
up to diameter 203 mm

Label printers SQUIX 2
Industrial device for print widths
up to 57 mm

Label printers SQUIX 4
Industrial device for print widths
up to 108 mm

Label printers SQUIX 6.3
Industrial device for print widths
up to 168 mm

Label printers A8+
Industrial device for print widths
up to 216 mm

Label printers XD4T
for double-sided printing

Label printers XC
for two-color printing

Print and apply systems HERMES Q
for automation

Print and apply systems Hermes C
for two-color printing and applying

Print modules PX Q
to be integrated in labeling machines

Labels
made from more than 400 materials

Ribbons
in wax, resin and resin/wax qualities

Label software cablabel S3
Design, print, control

Label dispensers HS, VS
for horizontal or vertical dispense

Labeling heads IXOR
to be integrated in labeling machines

Marking lasers XENO 4
in 19" housings

Laser marking systems
in desktop housings

cab // **820** distribution partners in more than **80** countries

cab
we identify more