cab
we identify more

Products need labeling

Label printers for industrial applications

MACH 4S

Made in Germany

Key features

MACH 4S

Label printers for industrial applications

The **MACH 4S** provide all features of a high-class industrial printer with a wide application range.

The print mechanics and the chassis are made of high-quality materials and perfectly match in terms of shape and function.

The large, colored touchdisplay with self-explanatory symbols offers best operability.

Labels and ribbons are easy to insert from the front.

The centered material guide eliminates any need of adjustments.

The hightech electronic board integrates all the needed interfaces as standard and is ready for any connection.

- reliable and fast printing
- accurate imprint
- compact, appealing design
- easy operation
- little footprint

Sample applications:

PCB labels
When only little space is available – smallest label size 4 x 4 mm

Type plates
Pin sharp 600 dpi fonts, graphics and barcodes

Cardboard box and pallet labels
up to width 116 mm

Types

Material guide
centered

1.1 **Type B with tear-off edge**

for printing on all materials that are wound on rolls or reels or fanfold.

Label printer		MACH 4.3S		MACH 4S	
Printable resolution	dpi	203	300	300	600
Print speed	up to mm/s	250	250	300	150
Print width	up to mm	104	108.4	105.7	105.7

1.2 **Type P with peel-off function**

for printing on all materials that are wound on rolls or reels or fanfold. In addition, the labels can be dispensed.

Label printer		MACH 4.3S		MACH 4S	
Printable resolution	dpi	203	300	300	600
Print speed	up to mm/s	250	250	300	150
Print width	up to mm	104	108.4	105.7	105.7
Label height	from mm	12			

1.3 **Type C with cutter**

for printing on all materials that are wound on rolls or reels or fanfold. From 12 mm in height, the labels and continuous materials can be cut.

Label printer		MACH 4.3S		MACH 4S	
Printable resolution	dpi	203	300	300	600
Print speed	up to mm/s	250	250	300	150
Print width	up to mm	104	108.4	105.7	105.7
Cutting length	mm	> 5			
Gap height	up to mm	2.5			
Cuts/min, without material	up to	100			
Stop print job when		final cutter position has not been reached			

Accessories

4.1 **External rewinder ER4/210**

Label winding is either outside or inside. An adapter kit for exact alignment of the external rewinder is included in the delivery.

External rewinder		ER4/210
Material width	up to mm	120
Roll diameter	up to mm	300
Tightening axle for core diameter	mm	76
Winding		outside or inside

Details

1 Cover with a large panoramic window
It can be opened wide. The integrated damping mechanism provides smooth closing. Label stock is visible at any time.

2 Roll holder
The label roll is put onto the holder and, at this, is automatically centered. Materials of different widths can be placed within the box.

3 Ribbon holder
The ribbon is pushed onto the spring-mounted holder and is centered by means of a margin stop and the position indication. The insertion in the print mechanics is simple and comfortable.

4 Print mechanics
It opens at the push of a button and offers easy access.

5 Print heads
All print heads are freely interchangeable. They are automatically detected and calibrated by the CPU. Major data sucha s running performance, maximum operating temperature and heat energy are directly stored in the print head. The data can be read at the plant.

6 Gap sensor
It is arranged for labels or punch marks and end of material as well as for print marks in a centered position. In case of multi-track labels, you can switch to a sensor that is shifted 10 mm to the left.

7 Material guide
With the lateral retaining wheel the width is adjusted. At this, the labels are centered.

8 Reflective sensor
Labels and end of material as well as print marks are identified by the slideable sensor.

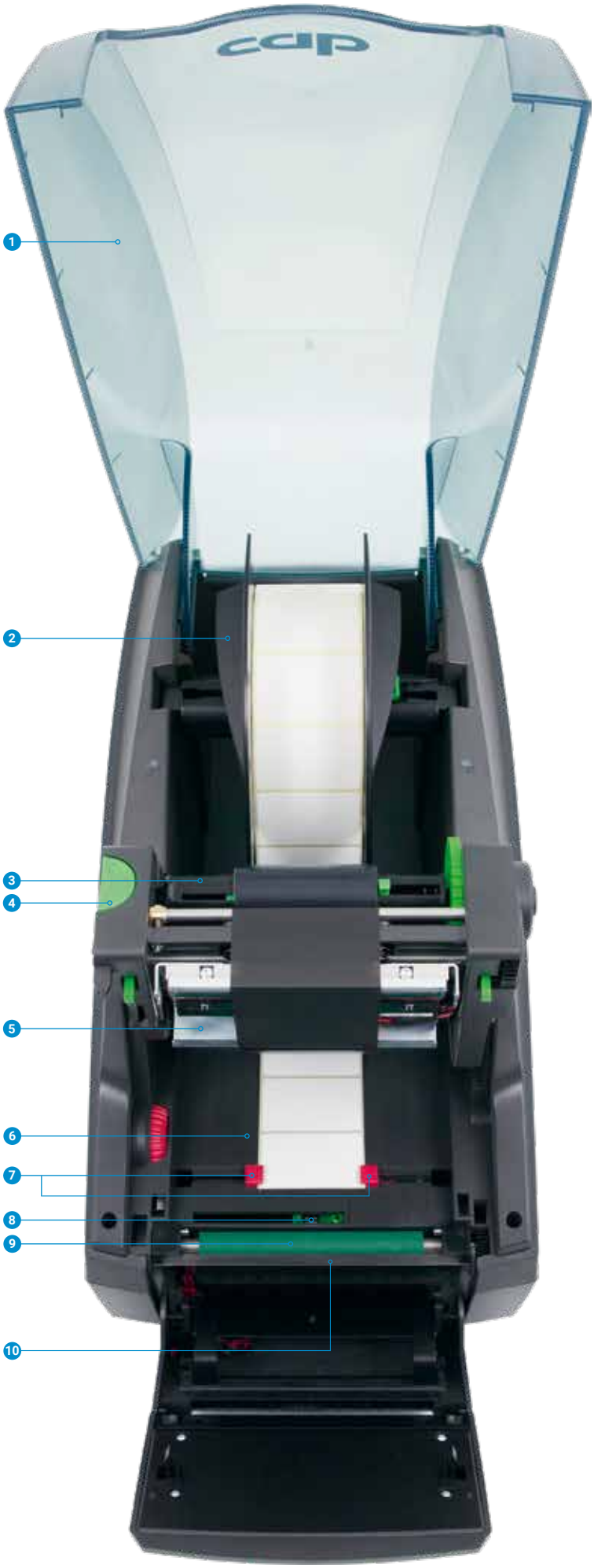
9 Print roller DR4
It can be quickly and easily unlocked in few steps for cleaning or replacement. Coating: synthetic rubber


DR4-M25


DR4-M50

To achieve accurate imprint with slim materials and ribbons slim print rollers are needed. These prevent from print roller wear, print head contamination and errors during material feed.

10 Peel-off function (with "P" type)
The carrier tape is lead down behind the operation panel. The label separates from the carrier tape at the peel-off edge.



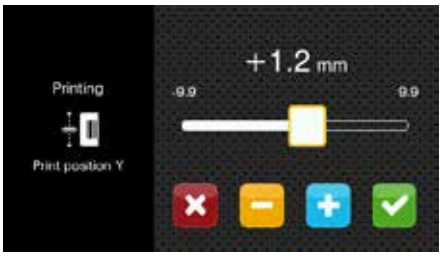
Operation panel

Intuitive and easy operation with self-explanatory symbols to configure the device setups

1. **LED signal:** Power ON
2. **Status bar:** Data reception, Record data stream, Ribbon warning, SD memory card / USB memory stick plugged in, Bluetooth, WLAN, Ethernet, USB Slave, Time
3. **Printer status:** Ready, Pause, Number of printed labels per print job, Label in peel-off position, Awaiting external start signal
4. **Buttons for**
   Cutter: direct cutting
   Tear-off or peel-off mode: print the next label
5. **Operation**
   - Jump to menu
   - Reprint last label
   - Interrupt and continue print job
   - Stop and delete all print jobs
   - Label feed

Setup options

Printing parameters

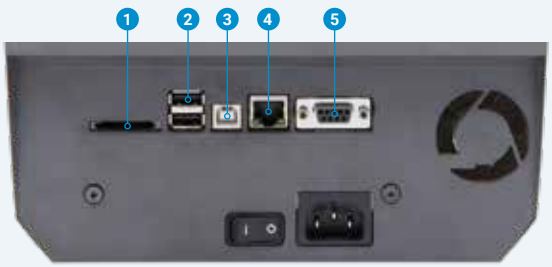


Print position Y
Fast setup with a slider, fine setup with ± keys

Print speed selection
via scroll function

Video tutorials
explain how to operate the device

Interfaces on the back of the device



1. for a **SD memory card**
2. **2 x USB host** to connect a Service Key, USB memory stick, keyboard, barcode scanner, USB Bluetooth adapter, USB WLAN stick
   WLAN hotspot or infrastructure mode: In hotspot mode it is possible to directly connect a mobile device with the printer via WLAN.
3. **USB 2.0 Hi-speed device** to connect a PC
4. **Ethernet 10/100 BASE-T**
5. **RS232C** 1,200 to 230,400 baud/8 bit

Technical data

● Typical ○ Possible ■ Standard

Label printer			MACH 4.3S		MACH 4S	
Print head	Application		rough surroundings and thermal direct printing		type plates with small fonts or graphics	
	Characteristic		durable		sharp-edge print image	
Material feed and print head position			centered			
Printing method	Thermal transfer		●	●	●	●
	Thermal direct		●	●	○	–
Printable resolution		dpi	203	300	300	600
Print speed		up to mm/s	250	250	300	150
Print width		up to mm	104	108.4	105.7	105.7
Material[1]						
Paper, cardboard, PET, PE, PP, PI, PVC, PU, acrylate, Tyvec		on	roll, reel, fanfold			
Pressed continuous shrink tubes		on	roll, reel			
Textile tapes		on	roll, reel			
Labels	Width	mm	5 - 116			
	Height without label backfeed	from mm	5			
	peel-off, single cut	from mm	12			
	Thickness	mm	0.03 - 0.6			
Carrier material	Width	mm	9 - 120			
	Thickness	mm	0.03 - 0.13			
Continuous material	Width	mm	5 - 120			
	Thickness	mm	0.05 - 0.5			
	Weight (cardboard)	up to g/m²	180			
Shrink tubes	Width continuous	mm	5 - 85			
	Thickness	up to mm	1.1			
Roll, reel	Outside diameter	up to mm	205			
	Core diameter	mm	38.1 - 76			
	Winding		outside or inside			
Ribbon[2]						
Ink side			outside or inside			
Roll diameter		up to mm	72			
Core diameter		mm	25.4			
Variable length		up to m	360			
Width		mm	25 - 114			
Printer sizes and weight						
Width x Height x Depth		mm	240 x 317 x 435			
Weight		kg	6			
Label sensor with position indication						
Gap sensor	for		labels or punch marks and end of material, print marks in transparent materials			
	Position		centered or shifted 10 mm to the left			
Reflective sensor from below	for		labels and end of material, print marks in not transparent materials			
	Position		adjustable from centre position 56 mm to the left or 10 mm to the right			
Height of material gap		up to mm	2			
Electronics						
Processor 32 bit clock rate		MHz	800			
Main storage (RAM)		MB	256			
Data storage (IFFS)		MB	50			
Slot for SD memory card (SDHC, SDXC)		up to GB	512			
Battery for time and date, real-time clock			■			
Data storage when power is off (e.g. serial numbers)			■			
Interfaces						
RS232C 1,200 to 230,400 baud/8 bit			■			
USB 2.0 Hi-speed device to connect a PC			■			
Ethernet 10/100 BASE-T			LPD, IPv4, IPv6, RawIP printing, DHCP, HTTP, FTP, SMTP, SNMP, TIME, NTP, Zeroconf, SOAP web service			
2 x USB host on the back of the device for			Service Key, USB memory stick, keyboard, barcode scanner, USB Bluetooth adapter, USB WLAN stick			
Periphery connection for cutter or peel-off function			■			

[1] The material specifications are standard values.
Applications with small labels, very thin, slim, thick and stiff materials as well as labels with a strong adhesive need to be tested.
[2] The ribbon should at least correspond with the width of the carrier material.

Technical data

■ Standard ☐ Option

Operating data		
Power supply		100-240 VAC, 50/60 Hz, PFC
Power consumption		Standby < 10 W / typisch 150 W / maximal 300 W
Temperature / humidity	Operation	+5 - 40°C / 10 - 85 % not condensing
	Storage	0 - 60°C / 20 - 85 % not condensing
	Transport	–25 - 60°C / 20 - 85 % not condensing
Approvals		CE, FCC class A, CB, CCC, c UL

Operation panel	
	Touchscreen LCD color display
Screen diagonal	4.3"
Resolution (Pixel) W x H	480 x 272

Setup options		
	Print Labels Ribbon Tear-off Peel-off Cut Interfaces Error	Region: Language Country Keyboard Time zone Time Display: Brightness Power safe mode Orientation Interpreter

Status bar		
	Data reception Record data stream Ribbon warning SD memory card plugged in USB memory stick plugged in	Bluetooth WLAN Ethernet USB Slave Uhrzeit

Monitoring		
	Ribbon winding Ribbon pre-warning End of ribbon End of material Periphery error	Print head tension Print head temperature Print head open

Test routines	
System diagnostics when	Device is switched on, including print head detection
Display information, Sstatus printout, analysis	Fonts list, type overview, WLAN status, label profile, test grid, monitor mode, recording print data on memory card
Status reports	Printout of system settings, for example - print lengths and running times, - system status requests via software command, - display information such as network error, missing link, barcode error, periphery error, etc.

Fonts	
Font types	5 bitmap fonts including OCR-A, OCR-B and 3 vector fonts Swiss 721, Swiss 721 Bold, Mono-space 821 are internally provided, TrueType fonts may be stored
Character sets	Windows 1250 to 1257, DOS 437, 737, 775, 850, 852, 857, 862, 864, 866, 869, EBC DIC 500, ISO 8859-1 to -10 and -13 to -16, WinOEM 720, UTF-8, Macintosh Roman, DEC MCS, K0I8-R All West and East European, latin, cyrillic, Greek, Hebrew and Arabic characters, Chinese and Thai are supported.
Bitmap fonts	Size in width and height 1-3 mm Zoom factor 2 to 10 Orientation 0°, 90°, 180°, 270°
Vector/TrueTyp fonts	Size in width and height 0.9-128 mm Variable zoom Orientation 360° in steps of 1°
Font styles	Bold, italic, underlined, outline, inverse - depending on the font type
Character spacing	Variable or Monospace for fixed character spacings

Graphics	
Graphic elements	Lines, arrows, rectangles, circles, ellipses - filled and 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 QR code PDF 417 UPS MaxiCode GS1 DataBar Aztec Codablock F Micro PDF 17 RSS 14 truncated, limited, stacked, stacked omni-directional EAN/GS1 DataMatrix	
	All codes are variable as regards height, modular width and ratio; orientation 0°, 90°, 180°, 270° optional check digit, plain text printout and start/stop code depending on the type of code	

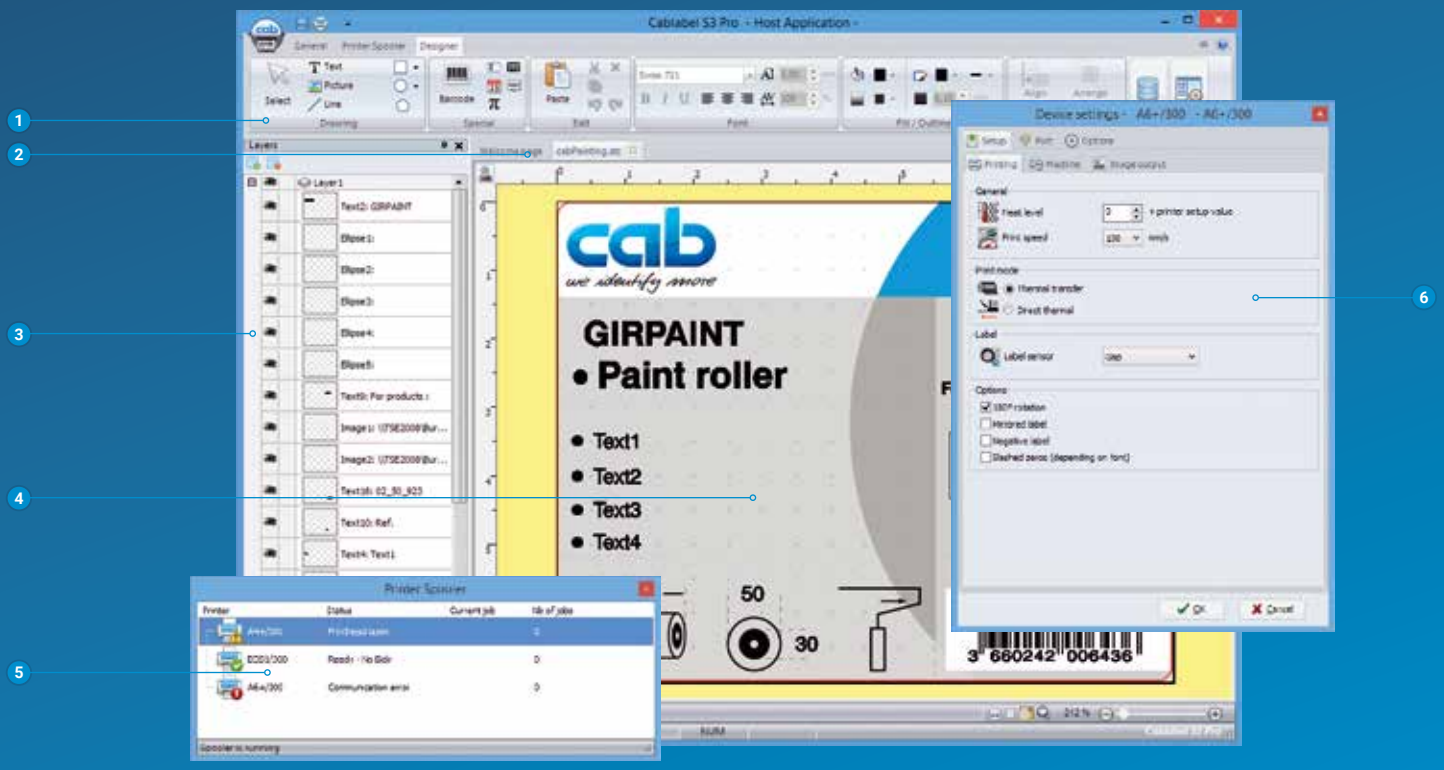
Software		
Label software	cablabel S3 Lite cablabel S3 Viewer cablabel S3 Pro cablabel S3 Print	■ ■ ☐ ☐
Running also with	CODESOFT NiceLabel EASYLABEL BarTender	
Stand-alone operation		■
WHQL certified Windows printer drivers for	Windows Vista Windows 7 Windows 8 Windows 8.1 Windows 10 Server 2008 Server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

Label software cablabel S3

Designing, printing, administrating with cablabel S3
cablabel S3 opens up the full potential of cab devices.

First of all the label must be designed. Only when it comes to printing it has to be decided whether the label shall be processed on a label printer, a print and apply or marking laser system.

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.



1 **Toolbar**
to create different label objects

2 **Tabs**
to quickly switch from one running label design to another

3 **Layers**
to manage different label objects

4 **Designer**
Label display in WYSIWYG mode to simplify the design

5 **Printer spooler**
to monitor all print jobs and printer status

6 **Drivers**
to manage settings and the communication with devices

Printing in stand-alone operation

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 systems. With the Database Connector, these data are recalled from the host and printed.

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

Printer control and administration

Printer 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 certified according to WHQL. 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 drivers[3]
The 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**

Printer 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.

Printer integration

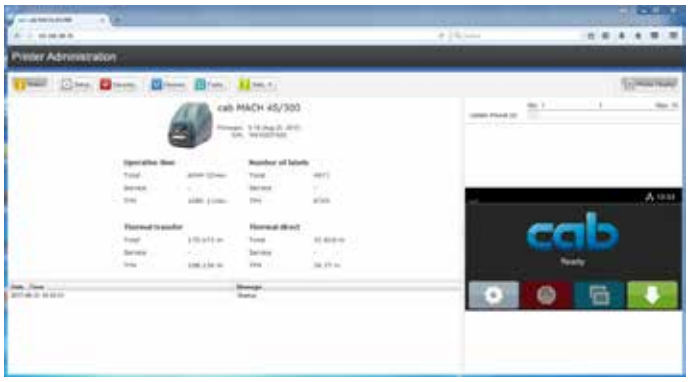
Printer Vendor Program
As a partner in SAP's[4] Printer Vendor Program cab has developed a replace method to enable easy control of a cab printer via SAPScript from SAP R/3. Only variable data are sent to the printer by the host. Pictures and fonts that priorly had been stored in the local memory (IFFS,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

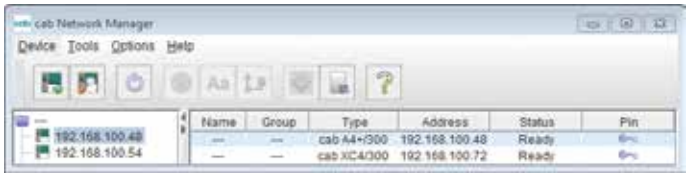
[1] Windows is a registered trademark of Microsoft Corporation
[2] MAC OS X is a registered trademark of Apple Computer, Inc.
[3] Only for device series SQUIX (except of SQUIX MT), MACH 4S, EOS, Hermes+ and PX
[4] SAP and all corresponding logos are trademarks or registered trademarks of SAP SE

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.

Delivery program

Pos.		Part no.	Printers
1.1	 Type B with tear-off edge	**5984630** **5984631** **5984632** **5984633**	Label printer MACH 4.3S/200B Label printer MACH 4.3S/300B Label printer MACH 4S/300B Label printer MACH 4S/600B
1.2	 Type P with peel-off function	**5984634** **5984635** **5984636** **5984637**	Label printer MACH 4.3S/200P Label printer MACH 4.3S/300P Label printer MACH 4S/300P Label printer MACH 4S/600P
1.3	 Type C with cutter	**5984638** **5984639** **5984640** **5984641**	Label printer MACH 4.3S/200C Label printer MACH 4.3S/300C Label printer MACH 4S/300C Label printer MACH 4S/600C
		Scope of delivery:	
DVD:			Label printer Power cable Type E+F, length 1.8 m Connecting cable USB, length 1.8 m Operator's manual DE/EN Operator's manual in more than 20 languages Configuration manual DE/EN/FR Service manual DE/EN Spare parts list DE/EN Programming manual EN WHQL certified Windows printer drivers for Windows Vista / Server 2008 Windows 7 / Server 2008 R2 Windows 8 / Server 2012 Windows 8.1 / Server 2012 R2 Windows 10 / Server 2016 Apple Mac OS X printer drivers DE/EN/FR Linux printer drivers DE/EN/FR Label software cablabel S3 Lite cablabel S3 Viewer Database Connector

Pos.		Part no.	Wear parts
2.1		**5977382.001**	Print head 4.3/200
		5977383.001	Print head 4.3/300
		5977444.001	Print head 4/300
		5977380.001	Print head 4/600
2.2		**5984649.001**	Print roller DR4
Pos.		**Part no.**	**Extra equipment**
2.3		**5984223.001**	Print roller DR4-M25
2.4		**5984224.001**	Print roller DR4-M50

Pos.		Part no.	Extra equipment
2.5		**5977370**	SD memory card 8 GB
2.6		**5977730**	USB memory stick 8 GB
2.7		**5978912.001**	USB WLAN stick 2.4 GHz 802.11b/g/n 2.4 GHz
2.8		**5977731**	USB WLAN stick with rod antenna 2.4 GHz 802.11b/g/n + 5 GHz a/n/ac
2.9		**5977732**	USB Bluetooth adapter
2.10		**5550818**	Connecting cable RS232 C 9/9 pin, length 3 m
2.11		**5984648.001**	Roll holder
2.12		**5984647.001**	Ribbon holder
2.13		**5540750**	External rewinder ER4/210
Pos.		**Part no.**	**Label software**
11.7		**5588000** **5588001** **5588100** **5588101** **5588150** **5588151** **5588152** **5588002** **5588105** **5588106** **5588155** **5588156** **5588157** in preparation	cablabel S3 Lite cablabel S3 Pro 1 WS cablabel S3 Pro 5 WS cablabel S3 Pro 10 WS cablabel S3 Pro 1 additional licence cablabel S3 Pro 4 additional licences cablabel S3 Pro 9 additional licences cablabel S3 Print 1 WS cablabel S3 Print 5 WS cablabel S3 Print 10 WS cablabel S3 Print 1 additional licence cablabel S3 Print 4 additional licences cablabel S3 Print 9 additional licences cablabel S3 Print Server
11.10		**9009950**	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/mach4s

cab Product overview

Label printers MACH1, MACH2
in the lower price segment

Label printers MACH 4S
where little space is available

Label printers EOS1
Desktop device for label rolls
up to diameter 152 mm

Label printers EOS4
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
Industrial device for print widths
up to 168 mm

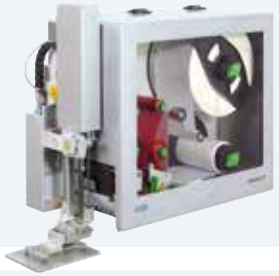
Label printers A8+
Industrial device for print widths
up to 216 mm

Label printers XD4T
for double-sided printing

Label printers XC
for two-color printing

Print and apply systems Hermes+
for automation

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



Print modules PX
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 FL+
with output powers 10 to 50 Watt

Laser marking systems XENO 1
for single workpieces and series