



## MACH4 Label Printer

Made in Germany

# Product type overview for MACH4



## B with tear-off plate

A minimum label height of 30 mm is required for it to be torn off.

1.1	Printer	MACH4		
	Print resolution dpi	203	300	600
	Print width up to mm	104	105,6	105,6
	Print speed up to mm/s	200	200	100



## P with tear-off plate and dispensing function

The label height on dispensing is 20 – 200 mm.

1.2	Printer	MACH4		
	Print resolution dpi	203	300	600
	Print width up to mm	104	105,6	105,6
	Print speed up to mm/s	200	200	100



## C with tear-off plate and cutter

Labels or continuous material can be cut at a height of just 12 mm.

1.3	Printer	MACH4		
	Print resolution dpi	203	300	600
	Print width up to mm	104	105,6	105,6
	Print speed up to mm/s	200	200	100

All information on scopes of delivery, design and technical specifications correspond to the date of the printing. Subject to change.

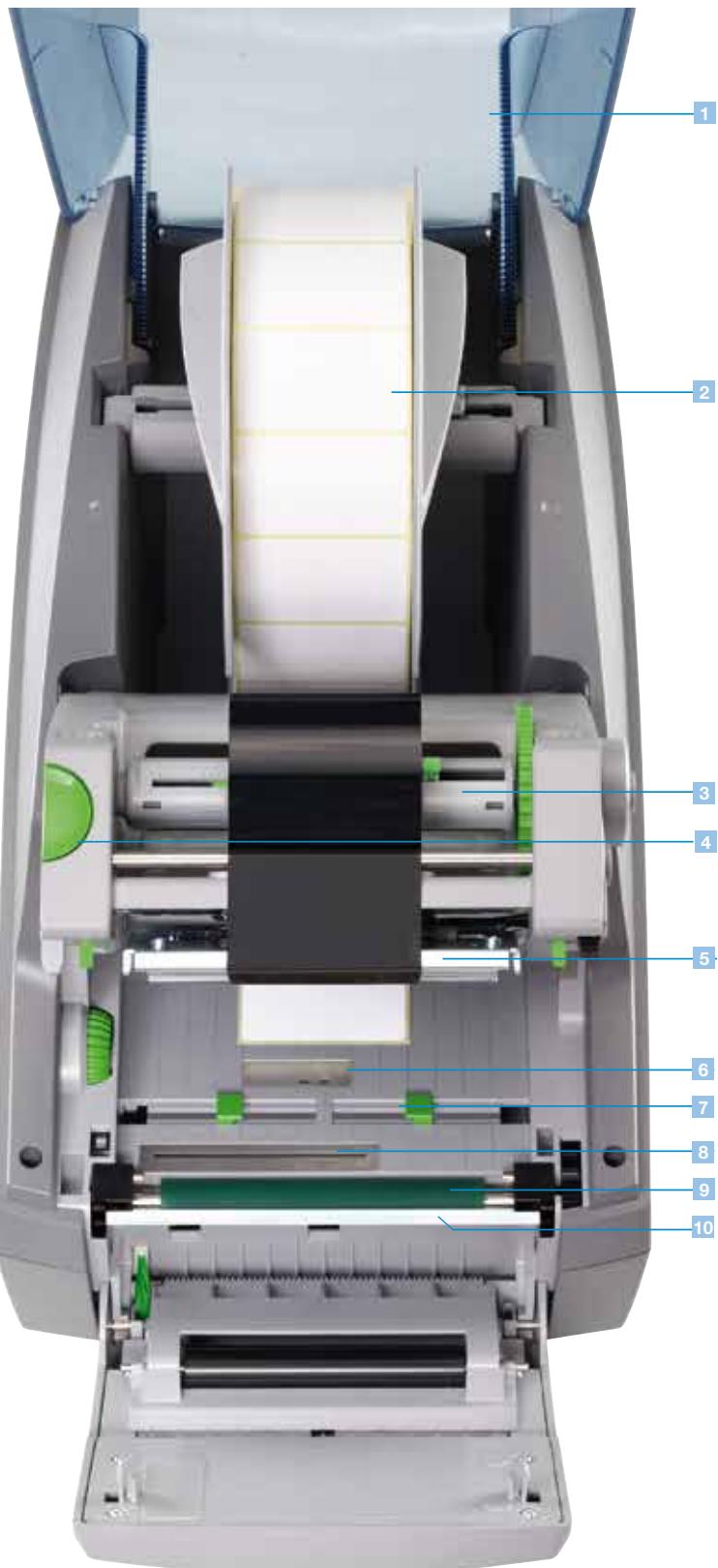
For current data refer to website [www.cab.de/en/mach4](http://www.cab.de/en/mach4).

## Key features

- MACH4 offers all the features of a high class industrial printer with a wide application range.
- Labels and ribbons can be inserted from the front. The print mechanism and housing are made of premium materials and are perfectly harmonized in their form and function.
- Easy and comfortable handling and high reliability were the requirements during development. The large display with white backlight offers optimum readability.
- The navigation pad with the additional “Enter” button simplifies operation, with only the operated functions being displayed.
- The centered label path eliminates the need for adjustments and avoids wrinkling of the ribbon.
- The high-tech electronic board incorporates all the requisite interfaces as standard and works with all kinds of adapters.



# Technical details



## 1 Cover with large window

Can be opened wide. The integrated cushioning mechanism ensures smooth closing. The label stock is visible at all times.

## 2 Media hub

The roll is inserted into the media hub and centered automatically. Materials of different widths fit easily within the box.

## 3 Ribbon retainer

The ribbon can be slid onto a ribbon supply hub with spring mounted brackets. It can be centered with a movable flange and a positioning indicator. The ribbon can be inserted quickly and easily into the print mechanism.

## 4 Print mechanism

It can be opened at the push of a button and offers easy access.

## 5 Printing with 203, 300 or 600 dpi

The printheads can switch easily between 203 and 300 dpi. The printer detects the resolution automatically.

## 6 Gap sensor

To detect the beginning or end of labels, the gap sensor is mounted in the center of the label path. With multi-track labels, the user can switch to another sensor that is shifted 10 mm sideways.

## 7 Label guide

The adjustment knob can be used to adjust the width of the printing area in order to center the labels.

## 8 Reflex sensor

The adjustable reflex sensor can be used to identify the start of a label, print marks and cut-outs

## 9 Drive roller

The drive roller can be easily removed for cleaning or replacement.

## 10 Peel-off plate

The liner is guided down behind the operation panel. The label is removed from its liner at the peel-off-plate.

# Interfaces



Rear of printer

- 1 RS232C interface.
- 2 USB 2.0 slave interface.
- 3 Ethernet 10/100 Base T interface with TCP/IP.
- 4 Slot for wireless LAN card.
- 5 Two USB master interfaces for connecting an external operation panel, keyboard, scanner, USB flash drive or service key.
- 6 Slot for CompactFlash Type I memory card.

## Options



- Centronics bi-directional interface acc. to IEEE 1284. RS422/RS485 interface 1,200 to 230,400 Baud/8 Bit. The interfaces are plugged into the PC. Connection to the printer via mini USB connection cable.



- Label selection – I/O box. Up to 16 different labels can be loaded via PLC from a memory card. Operation of four inputs/outputs via Basic Interpreter.



- cab WLAN card 802.11 b/g.

# Stand-alone operation

## Printing without PC

Stand-alone operation is the ability to print labels even if the printer is not connected to the host system. The label layout is designed with the label software cablabel S3 or direct programming via PC. Label formats, fonts, font-, text- and graphics data as well as data base contents are saved on the USB stick or read on the internal data memory IFFS. Only variable data to be printed is sent to the printer via keyboard or scanner.



# Technical data

Standard  Optional

Label printer		MACH4		
<b>Print head</b>				
Printing method	Thermal transfer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Thermal direct	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	—
Print resolution	dpi	203	300	600
Print width	mm	104	105,6	105,6
Print speed up to	mm/s	200	200	100
<b>Material<sup>1)</sup></b>				
Labels, continuous rolls or fan-folded		Paper, cardboard, textile, plastics such as PET, PE, PP, PVC, PU, acrylate, PI		
Thickness mm / Weight g/m <sup>2</sup>		0,055–0,8/60–200		
Width	Labels mm	6 - 116		
	Liner or continuous rolls mm	25 - 120 / from 0,4 mm material thickness 5 - 120		
Label height	mm	5 - 4500		
	when dispensing from mm	20		
Material height	when cutting from mm	12		
Media roll	total diameter mm	205		
	core diameter mm	38–100		
	winding direction	outside or inside		
<b>Ribbon</b>				
Ink		outside or inside		
Roll diameter up to	mm	72		
Core diameter	mm	25		
Ribbon length up to	m	360		
Width <sup>2)</sup> up to	mm	114		
<b>Dimensions</b>				
Height x Depth x Width	mm	312 x 435 x 240		
Weight	kg	6		
<b>Label sensor</b>				
Gap sensor		For label edge or punching mark and end of material centered or shifted 10 mm to the left		
Position				
Reflective sensor from below		For label edge, punching or centered printing mark adjustable 56 mm to the left /10 mm to the right		
Position				
<b>Electronics</b>				
Processor High Speed 32 Bit Coldfire / clock rate MHz		266		
RAM MB		64		
Memory IFFS MB Flash		8		
Slot for CompactFlash Type I memory card		<input checked="" type="checkbox"/>		
Slot für wireless LAN card		<input checked="" type="checkbox"/>		
Battery buffer for real-time clock, printout of time and date, data storage on shut-down		<input checked="" type="checkbox"/>		
Warning signal acoustic signal in case of error		<input checked="" type="checkbox"/>		
<b>Interfaces</b>				
Centronics bidirectional acc. IEEE 1284		<input type="checkbox"/>		
RS232 C 1.200 up to 230.400 Baud / 8 Bit		<input checked="" type="checkbox"/>		
USB 2.0 full speed Device for PC connection		<input checked="" type="checkbox"/>		
Ethernet 10/100 Base T, LPD, RawIP-Printing, ftp-Printing, DHCP, HTTP, FTP, SMTP, SNMP, TIME, Zeroconf, mDNS, SOAP		<input checked="" type="checkbox"/>		
RS422, RS485 1.200 up to 230.400 Baud / 8 Bit		<input type="checkbox"/>		
WLAN card 802.11b/g WEP / WPA PSK (TKIP)		<input type="checkbox"/>		
2 x USB Host for external operation panel, keyboard, scanner, service key, USB flash drive		<input checked="" type="checkbox"/>		
<b>Operating data</b>				
Power supply		100 - 240 VAC 50/60 Hz, PFC		
Energy consumption		max. 300 W		
Temperature/Humidity	Operation:	5 - 40°C / 10 - 85% not condensing		
	Stock:	0 - 60°C / 20 - 80% not condensing		
	Transport:	- 25 - 60°C / 20 - 80% not condensing		
Approvals		CE, FCC class A, CB, CCC, UL		

<sup>1)</sup> Limitations may apply to small labels, thin materials or strong adhesives. Critical materials or applications must be tested and approved.

<sup>2)</sup> The ribbon should be roughly the same width as the label in order to avoid folding.

Operation panel	
Buttons/LED display	Pause, Feed, Cancel, Menu, Enter, 4 x Cursor
LCD graphic display	Width 60, Height 40 mm, Text 4 lines, approx. 20 characters per line
Settings	
	Digital or analog clock System settings Print parameters 25 language settings
On the Display	
	Data reception WLAN field intensity Ethernet status Used memory Temperature printhead Access to memory card
Monitoring	
Stop printing if	End of ribbon End of labels Printhead open Final position not reached
Test routines	
System diagnosis	When switched on, including printhead testing
Short status, status print	Font list, device list, WLAN Status, label profile, test grid, monitor mode, PPP status
Status reports	Status printout with information about settings, e.g. print length counter, runtime counter, etc. Request of status via software command. Status messages on the display, e.g. network error - no link, barcode error, etc.
Fonts	
Font types	5 Bitmap fonts, incl. OCR-A, OCR-B and 3 Vector Fonts Swiss 721, Swiss 721 Bold and Monospace 821 internally available, loadable TrueType fonts. Thai and Chinese (simplified Chinese) available as option.
Character sets	Windows 1250 up to 1257, DOS 437, 737, 775, 850, 852, 857, 862, 864, 866, 869, EBCDIC 500, ISO 8859-1 up to -10 and -13 up to -16, WinOEM 720, UTF-8, Macintosh Roman, DEC MCS, KOI8-R. All West and East European Latin, Cyrillic, Greek, Hebrew and Arabic characters are supported. Thai and Chinese available as option.
Bitmap fonts	Size of width and height 1 – 3 mm Zoom 2 – 10 Orientation 0°, 90°, 180°, 270°
Vector- / TrueType fonts	Size of width and height 0,9 – 128 mm Variable zoom, Orientation 360° in steps of 1°
Font formats	Bold, italic, underlined, outline, inverse, depending on character fonts
Font width	Variable

Graphics		
Graphic elements	Line, arrow, box, circle, ellipse, filled and filled with fading	
Graphic formats	PCX, IMG, BMP, TIF, MAC, GIF, PNG	
Barcodes		
Linear barcodes	Code 39, Code 93 Code 39 Full ASCII Code 128 A, B, C EAN 8, 13 EAN / UCC 128 EAN / UPC Appendix 2 EAN / UPC Appendix 5 FIM HIBC	
2D codes	Interleaved 2 / 5 Ident- and lead code of Deutsche Post AG Codabar JAN 8, 13 MSI Plessey Postnet RSS 14 UPC A, E, E0	
Aztec, Codablock F, Data Matrix, PDF 417, Micro PDF 417, UPS Maxicode, QR-Code, RSS 14 truncated, limited, stacked and stacked omnidirectional, EAN-Datamatrix, GS1 Data Bar		
All codes are variable in height, module width and ratio. Orientation 0°, 90°, 180°, 270°. Optionally with check digit, printed characters and start/stop code depending on type of code.		
Software		
Programming	J-Script direct programming abc-Basic Compiler Database Connector SAP Replace method	
System diagnosis/administration	Printer monitoring with Intra- and Internet with web interface Network Manager	
Label software	cablabel® S3 Lite cablabel® S3 Viewer cablabel® S3 Pro cablabel® S3 Print	
Windows driver certified	32 / 64 bit for Windows Vista Windows 7 Windows 8 Windows 8.1 Windows 10	Server 2003 Server 2008 Server 2008 R2 Server 2012 Server 2012 R2
Mac- driver	OS X printer driver from version 10.6	
Linux driver	32/64 Bit from CUPS 1.2	
Stand-alone-operation		

# Accessories

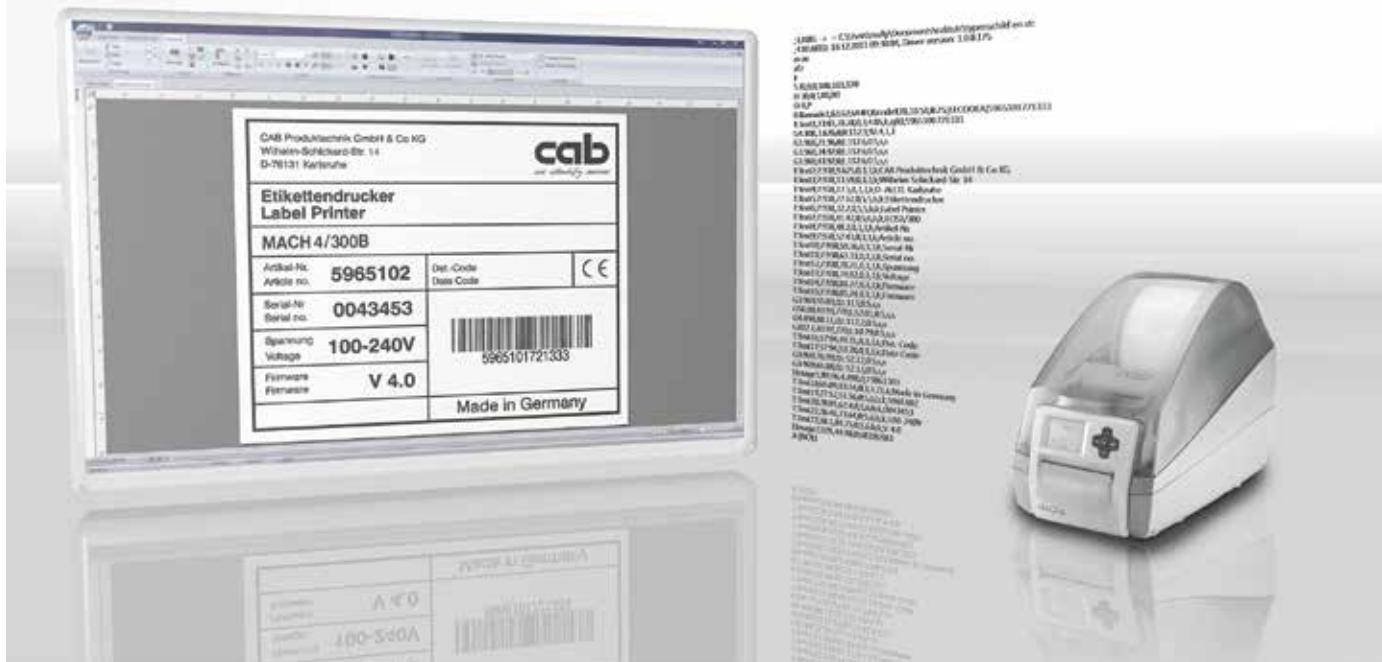
Accessories		MACH4
2.1	External rewinder ER4	<input type="checkbox"/>
2.2	Media hub	<input type="checkbox"/>
2.3	Ribbon holder	<input type="checkbox"/>
2.4	Memory card	<input type="checkbox"/>
2.5	Standard keyboard	<input type="checkbox"/>
Interfaces		
3.1	Interface Centronics	<input type="checkbox"/>
3.2	Interface RS422/RS485	<input type="checkbox"/>
3.3	Label selection box	<input type="checkbox"/>
3.4	WLAN card 802.11 b/g	<input type="checkbox"/>
Connecting cables		
4.1	Connecting cable RS232 C 9/9 pin, length 3 m	<input type="checkbox"/>
4.2	Patch cable CAT 5e, length 3 m grey	<input type="checkbox"/>
Software		
11.4	Database Connector	<input checked="" type="checkbox"/>
11.6	Network Manager	<input checked="" type="checkbox"/>
11.9	cablabel® S3	<input type="checkbox"/>
	Lite	<input checked="" type="checkbox"/>
	Pro	<input type="checkbox"/>
	Print	<input type="checkbox"/>
11.10	Programming manual	<input type="checkbox"/>

Accessories		Product
2.1		<b>External rewinder ER4</b> 1 Roll diameter mm: max. 210 2 Operating voltage: 100 - 240 V~ 3 Core diameter mm: 40 / 76
2.2		<b>Media hub</b> Labels can be provided in additional holders for quick replacement.
2.3		<b>Ribbon holder</b> Ribbons can be provided in additional holders for quick replacement.
2.4		<b>Memory card</b> CompactFlash Type I Label formats, fonts, texts and graphics can be saved. Accessible from the printer or from the PC.
2.5		<b>Standard keyboard</b> Connection: USB No. of keys: 115
Interfaces		Product
3.1		<b>Interface Centronics</b> bi-directional acc. to IEEE 1284
3.2		<b>Interface RS422/RS485</b> 1.200 up to 230.00 Baud/8 Bit
3.3		<b>Label selection box - I/O-Box</b> From a higher-level control, like a PLC, up to 16 different labels can be selected from the memory card.
3.4		<b>WLAN card 802.11 b/g</b>
Connecting cables		Product
4.1		<b>Connecting cable RS232 C</b> 9 / 9 pin, length 3 m
4.2		<b>Patch cable CAT 5e</b> 3 m grey

Operation and compliance with CE standards is only warranted by using materials provided or recommended by cab.

# Label software cablabel S3

11.9



cablabel S3 concentrates label design, print control and monitoring of all cab marking systems. The development of devices and software is synchronized.

## Highlights

Like no other software available cablabel S3 develops the full potential of cab devices. The software utilizes the JScript code to the full extent. The Pro product imports existing JScript files, so you can switch over easily to new software. With the new layer technology the user designs a label which works for all established devices and resolutions. Intelligent print control evaluates both device and resolution for printout and provides the proper data. Thus, possible sources of error are reduced.

cablabel S3 also maximizes the integration of database connections via Database Connector. After designing the label, the software provides all files to be stored within the printer for database connections. Stand-alone operation independent from a host system is supported. In addition the software creates interfaces which are easy to handle for SAP connection or other devices like PLC, scales and barcode testers.

## Functional range

Every company designs and formats their label printing differently. For example, label creation and production are executed by different employees. To adopt the software package to specific needs, cab offers different software packages.

- *cablabel S3 Lite* is offered free of costs with every cab printer and allows to create and print labels.
- With cost-saving *cablabel S3 Pro* label designs for professional technical solutions can be created.
- *cablabel S3 Viewer* shows the preview of a label in the Windows Explorer and - like the Lite product - is delivered free of costs with every cab printer. The Viewer may support showing examples during the approval processes or supplier requirements.
- *cablabel S3 Print* is provided for users in production or warehouse. The user interface is simplified and provides only those functions which are required for label printing.

Other products like *cablabel S3 Pro Laser*, *Print Laser* and *Print Server* are in preparation.

# Integration



No printer is isolated – in a productive environment it is connected to other equipment or networks for control and monitoring. cab offers various possibilities to integrate the printer into your environment.

## Control

Every cab printer can be directly coded with the simple programming language *JScript* and an extensive instruction set. The label software cablabel® S3 supports optimally *JScript*, but a *JScript* program may also be created with any text editor.

As an integrated element of the firmware, the *abc Basic compiler* enables the printer to process data via BASIC programming before it is sent for print editing. That way, you replace external printer languages or integrate data from other systems, e.g. balance or a PLC.

**11.4** In the stand-alone mode with additional network connection, the *Database Connector* enables printers to access data directly from a central ODBC-, OLEDB compatible database and to print it as a label.

In cooperation with SAP\* cab developed the so-called *replace method* to control cab printers quickly and easily from SAPScript using SAP R/3. Using the replace method the host computer only sends the *JScript* variable, respectively changed data to the printer. As a Silver Level partner in SAP's Printer Vendor Program, cab has access to the SAP development area for optimum printer support in SAP environments.

\* SAP and all SAP logos are trademarks or registered trademarks of SAP SE in Germany and in several other countries.

**11.10** The *Programmer's guide* explains and describes commands for different printer models via direct programming with *JScript* and *abc* and additionally the connection of the printer to databases via *Database Connector*.

For the printer control via PC accredited drivers are available for established Windows operating systems and additionally CUPS-based drivers for Mac OS X and Linux. The drivers ensure optimal stability on your operating system.

## Monitoring

Using standard programs such as the web browser or FTP clients, the integrated HTTP and FTP server enables print monitoring, configuration, firmware updates and memory card administration. Status, warning and error messages are sent to administrators or users as e-mails or SNMP datagrams via SNMP and SMTP clients. A time server is used to synchronize time and date.

**11.6** The cab Network Manager enables the user to control a number of printers across a network simultaneously. It supports monitoring, configuration, firmware updates, memory card administration, file synchronization and PIN administration centrally.

# Delivery program

		Part no.	Hardware	dpi
1.1		<b>5541082</b> <b>5541083</b> <b>5541086</b>	With tear-off plate Label printer MACH4 / 200B Label printer MACH4 / 300B Label printer MACH4 / 600B	
1.2		<b>5541092</b> <b>5541093</b> <b>5541096</b>	With tear-off plate and dispensing function Label printer MACH4 / 200P Label printer MACH4 / 300P Label printer MACH4 / 600P	
1.3		<b>5541102</b> <b>5541103</b> <b>5541106</b>	With cutter Label printer MACH4 / 200C Label printer MACH4 / 300C Label printer MACH4 / 600C	
		<b>Scope of delivery</b>		
		Label printer, Power cable type E+F, length 1.8 m, Connecting cable USB, length 1.8 m, Operating manual de/en		
		<b>DVD:</b> Quick Start guide in 17 languages, Operating manual de/en/fr, Configuration manual de/en/fr, Service manual de/en, Spare parts list de/en, Programming manual en, Windows printer driver 32/64 bit in 19 languages for Windows Vista Server 2003 Windows 7 Server 2008 Windows 8 Server 2008 R2 Windows 8.1 Server 2012 Windows 10 Server 2012 R2 Label software cablabel® S3 Lite and Viewer Mac OS X driver de/en/fr, Linux driver de/en/fr		
		<b>Part no.</b>		
		<b>Spare parts</b>		
		<b>5541074.001</b> <b>5541073.001</b> <b>5541077.001</b>	Printhead 4 / 203 Printhead 4 / 300 Printhead 4 / 600	
		<b>5540896.001</b>	Print roller DR4	
		<b>Part no.</b>		
		<b>Accessories</b>		
2.1		<b>5540750</b>	External rewinder ER4 / 210	
2.2		<b>5540867.001</b>	Media hub	

		Part no.	Accessories
2.3		<b>5540866.001</b>	Ribbon holder
2.4		<b>5561043</b>	Memory card CompactFlash Type I
2.5		on request	Standard PC keyboard USB German version
		Part no.	Interfaces
3.1		<b>5954200</b>	Centronics interface
3.2		<b>5954201</b>	RS422/RS485 interface
3.3		<b>5948205</b>	Label selection – I/O box
3.4		<b>5561041</b>	WLAN card 802.11 b/g
		Part no.	Connecting cable
4.1		<b>5550818</b>	Cable RS232 C 9/9 pin, length 3 m
4.2		<b>5918008</b>	Patch cable KAT 5e, 3 m gray
		Part no.	Software
11.9		<b>5588000</b> <b>5588001</b> <b>5588100</b> <b>5588101</b> <b>5588150</b> <b>5588151</b> <b>5588152</b>  <b>5588002</b> <b>5588105</b> <b>5588106</b> <b>5588155</b> <b>5588156</b> <b>5588157</b>  In preparation	Label software 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		<b>9008486</b>	Programming manual english, printed copy

# Product overview

Label printers MACH1/2  
in the lower price segment



Label printers MACH4  
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 A2+  
industrial device  
up to print width 57 mm



Label printers SQUIX  
industrial device  
up to print width 108 mm



Label printers A6+  
industrial device  
up to print width 168 mm



Label printers A8+  
industrial device  
up to print width 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 automatic labeling systems



Labels  
of more than 400 materials



Ribbons  
in wax, resin and resin/wax qualities



Label software cablabel S3  
Design, print, monitoring



Label dispensers HS/VS  
for horizontal or  
vertical dispensing



Labeling heads IXOR  
to be integrated  
in labeling machines



Marking lasers FL+  
with output powers 10 to 50 watt



Laser marking systems  
for industrial solutions



① Headquarters and fabrication in Germany

② to ⑦ International subsidiaries

There are further 820 distribution partners in more than 80 countries.



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