Status: 11/2019

Products need labeling

Tube labeling system

AXON 2

Made in Germany

Labeling tubes reliably in real time

In order to evaluate analyses reliably and quickly, tubes must be labeled uniquely.

In practice, 2D codes or linear barcodes are printed on self-adhesive labels and the labels are applied on the tubes.

Print resolutions of 300 or 600 dpi, a sharp-edge print image and high contrast enable even tiny 2D codes to be verified. Thermal direct and thermal transfer printing are possible.

AXON 2 suits for labeling tubes individually as a manual workstation or integrated in sample processing systems.

Tubes of diameters 10 to 17 mm can be processed, capped or uncapped. Printing and labeling take less than two seconds.

After the tubes have been labeled, they can be removed one by one or be ejected to a tray.

Self-explanatory symbols enable intuitive operation. The label roll and the ribbon are easy to remove. If it comes to cleaning or in cases of wear, print rollers and transport rollers can be removed easily by the operator with the help of a tool attached.

AXON 2 may be integrated in a Laboratory Information Management System (LIMS). Data transfer from a PC is possible via interfaces such as RS232, USB, Ethernet, or via WLAN.

In stand-alone operation, when no PC is connected, variable data are set with a keyboard or a scanner.

Power may be supplied by 110 to 240 VAC voltage or 36 to 60 VDC voltage, 24 VDC on request.

Details on tube labeling on the label printer, see SQUIX

1 Stop
With the help of spacers assembled to the tightening axles, slim ribbons can be set easily.

2 Slim print rollers
In order to achieve accurate imprint on small labels, slim print rollers are needed. These prevent from roller wear, print head contamination and errors during label feed.

3 Peel-off function
Labels are guided over a deflection roller to be applied reliably on the tubes.

4 Transport rollers
They apply the labels on the tubes.
Three types are provided for different tubes.

5 Wipe-down rollers
During labeling, they press the tubes to the transport rollers.

6 Pivot arms
They are set according to the length of a tube and the position of the label.

7 Material replacement
Pivoting the applicator allows labels and ribbon to be inserted.

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

Technical data

● typical ○ possible ■ standard □ option

Tube labeling system	Type	AXON 2 4.3	AXON 2 4	
Material guide		centered		
Printing method	Thermal transfer	●	●	●
	Thermal direct	●	○	–
Printable resolution	dpi	300	300	600
Print speed	up to mm/s	150	150	150
Print width	up to mm	108.4	105.7	105.7

Material			
Tubes	Orientation during labeling		horizontal
	Diameter	mm	10 - 17
	Length capped	mm	38 - 105
	Conicity (change of diameter)	up to %	0.8
Labels	Material		Paper, plastics PP, PC
	Width	mm	10 - 56
	Height	from mm	15
	Roll diameter	up to mm	205
	Core diameter	mm	38 - 76
	Winding		outside
Liner material width		up to mm	60
Ribbon	Ink side		outside or inside
	Roll diameter	up to mm	80
	Core diameter	mm	25
	Variable length	up to m	450
	Width	mm	25 - 114

Printer sizes and weight		
Width x Height x Depth	mm	252 x 288 x 520
Weight	approx. kg	12

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	
1 x USB host on the operation panel	for Service Key, USB memory stick	
1 x USB host on the operation panel	for USB WLAN stick 2.4 GHz 802.11b/g/n	
2 x USB host on the back of the device	for keyboard, barcode scanner, USB Bluetooth adapter, USB WLAN stick	
Digital I/O interface	providing 8 inputs and outputs	□

Operating data			
Power supply	100 - 240 VAC, 50/60 Hz, PFC		■
	36 - 60 VDC, 24 VDC on request		□
Power consumption	Standby < 10 W / typical 100 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, ICES-3, cULus, CB		

Operation panel			
Colored LCD touch display	Screen diagonal	"	4.3
	Resolution W x H	px	272 x 480

Monitoring		
Printer	Ribbon pre-warning End of ribbon Direction of ribbon winding End of labels	Periphery error Print head voltage Print head temperature Print head open Pinch roller open
Applicator	Applicator pivoted no tube available	wrong tube diameter

Fonts		
Font types internally provided	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	

For comprehensive technical data see SQUIX 4, **www.cab.de/en/squix**

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
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	

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 Rect. 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 / omnidirectional
	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)		■ ■ ■

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

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 are recalled by the Database Connector from the host and printed.

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 CUPS 1.2.

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

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[2] 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.

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 a network. Control, configuration, firmware updates, memory card administration, data synchronization and PIN administration are supported centrally.

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] SAP and all corresponding logos are trademarks or registered trademarks of SAP SE

Delivery program

Pos.		Part no.	Modules provided for tube labeling system AXON 2
1.1		**5977023.463**	Label printer SQUIX 4.3/300MP 100 - 240 VAC
		5977007.463	Label printer SQUIX 4/300MP 100 - 240 VAC
		5977008.463	Label printer SQUIX 4/600MP 100 - 240 VAC
		5977047.463	Label printer SQUIX 4.3/300MP 36 - 60 VDC, 24 VDC on requet
		5977048.463	Label printer SQUIX 4/300MP 36 - 60 VDC, 24 VDC on requet
		5977049.463	Label printer SQUIX 4/600MP 36 - 60 VDC, 24 VDC on requet
2.2		**5953700**	Print roller DR4-M25
		**5953701**	Print roller DR4-M50
		**5953702**	Print roller DR4-M80
3.1		**5977767**	Digital I/O interface
5.1		**5979509.463**	Tube applicator AXON 2 without transport roller without tray with peel-off plate
5.2		**5954180**	Print roller DR4 as a transport roller *To process flat cylindrical tubes without bulges or threads protruding*
5.3		**5979672**	Transport roller TRV *To process all types of tubes, even with caps or threads protruding. Both rollers are aligned to the size of a tube and the position of the label.*
5.4		**59xxxxx**	Transport roller TRK *To process all tubes having a cap or thread protruding, if alignment is not possible with a TRV transport roller.*
		5535960	One-off costs for TRK
5.6		**5979567**	Tray AXON 2
5.7		**5561500**	System adjustment and check

Pos.		Part no.	Tube applicator for label printer SQUIX 4...MP
6.1		**5979509**	Tube applicator AXON 2 with transport roller with tray with peel-off plate

Pos.		Part no.	Accessories
2.7		**5977370**	SD memory card 8 GB
2.8		**5977730**	USB memory stick 8 GB
2.9		**5978912.001**	USB WLAN stick 2.4 GHz 802.11b/g/n
2.10		**5977731**	USB WLAN stick with a rod antenna 2.4 GHz 802.11b/g/n + 5 GHz a/n/ac
2.11		**5977732**	USB Bluetooth adapter
3.2		**5917651**	I/O interface connector SUB-D 25 pins
3.4		**5955710**	Hand switch TR2
4.1		**5550818**	Connecting cable RS232C 9/9 pins, length 3 m

	Scope of delivery
	Tube labeling system Power cable Type E+F, length 1.8 m Connecting cable USB, length 1.8 m Operation manual DE/EN
DVD:	Operation manuals 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, 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 DE/EN/FR Linux printer drivers DE/EN/FR Label software cablabel S3 Lite cablabel S3 Viewer Database Connector

Configurator AXON 2

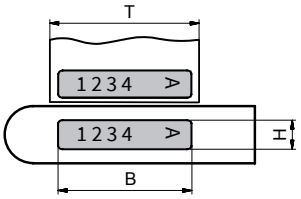
Please make use of the configurator provided online or send the filled-in form to your cab contact or email to info@cab.de

Configure online:
https://www.cab.de/en/axon2-conf

Customer / no. _____
Person in charge _____
Phone _____
Street _____
Zip code / City _____
Email _____

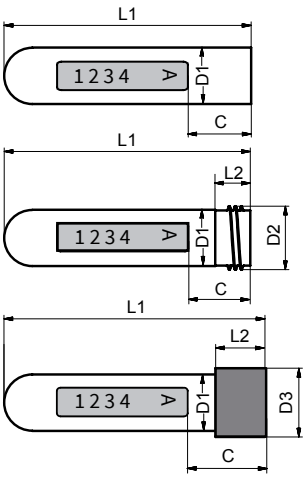
Date of issue _____
Target date _____
Project owner _____
Project controlling _____
Configurator no.
(filled in by cab) _____

1. Label
Width B _____ mm
Height H _____ mm
Type of material _____
Width of liner tape T _____ mm



2. Printing method 2.1 ☐ Thermal direct
2.2 ☐ with a ribbon
Width _____ mm
Type of material _____
Winding ☐ inside ☐ outside

3. Tubes
Diameter D1 _____ mm
Diameter D2 _____ mm
Diameter D3 _____ mm
Length L1 _____ mm
Length L2 _____ mm
Distance C _____ mm



4. Tube orientation Open to ☐ the right ☐ the left

5. Tube removed ☐ from a tray ☐ from insertion position

6. Label printer

6.1	☐ 5977023.463	Label printer SQUIX 4.3/300MP	100 - 240 VAC
6.2	☐ 5977007.463	Label printer SQUIX 4/300MP	100 - 240 VAC
6.3	☐ 5977008.463	Label printer SQUIX 4/600MP	100 - 240 VAC
6.4	☐ 5977047.463	Label printer SQUIX 4.3/300MP	36 - 60 VDC
6.5	☐ 5977048.463	Label printer SQUIX 4/300MP	36 - 60 VDC
6.6	☐ 5977049.463	Label printer SQUIX 4/600MP	36 - 60 VDC
6.7	☐ 5953700	Print roller DR4-M25 for liner tape widths up to 25 mm	
6.8	☐ 5953701	Druckwalze DR4-M50 for liner tape widths up to 50 mm	
6.9	☐ 5953702	Druckwalze DR4-M80 for liner tape widths up to 60 mm	
6.10	☐ 5977767	Digital I/O interface	

7. Tube applicator as assembly kit

7.1	☐ 5979509.463	Tube applicator AXON 2
7.2	☐ 5954180	Print roller DR4 as a transport roller to process flat cylindrical tubes
7.3	☐ 5979672	Transport roller TRV to process all types of tubes
7.4	☐ 59xxxxx	Transport roller TRK user-specific and as a series
7.5	☐ 5535960	One-off costs for TRK
7.6	☐ 5979567	Tray

Filled in by cab:

practicable: ☐ **yes** ☐ **no**
Name _____
Phone _____
Email _____
Part no. _____ **Name** _____

Date _____ **Signature** _____

Customer approval required after practicability check: ☐ **yes** ☐ **no**
Name _____
Phone _____
Email _____

Date _____ **Signature** _____

System adjustment and check:
To do this, we need to have approx. 100 tubes
1 label roll
1 ribbon roll

Germany
cab Produkttechnik GmbH & Co KG
Karlsruhe
Phone +49 721 6626 0
www.cab.de

France
cab Technologies S.à.r.l.
Niedermodern
Phone +33 388 722501
www.cab.de/fr

USA
cab Technology, Inc.
Chelmsford, MA
Phone +1 978 250 8321
www.cab.de/us

Mexico
cab Technology, Inc.
Juárez
Phone +52 656 682 4301
www.cab.de/es

Taiwan
cab Technology Co., Ltd.
Taipei
Phone +886 (02) 8227 3966
www.cab.de/tw

China
cab (Shanghai) Trading Co., Ltd.
Shanghai
Phone +86 (021) 6236 3161
www.cab.de/cn

China
cab (Shanghai) Trading Co., Ltd.
Guangzhou
Phone +86 (020) 2831 7358
www.cab.de/cn

South Africa
cab Technology (Pty) Ltd.
Randburg
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www.cab.de/za

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