

Status: 11/2020



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 tube labeling one by one by hand or automatically in a sample processing system.

Tubes of diameters 10 to 20 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
Print speed	up to mm/s		150	150
Print width	up to mm		108.4	105.7
Material				
Tubes	Orientation during labeling horizontal		AXON 2	AXON 2.1
	Diameter	mm	10 - 17	16 - 20
	Length capped	mm	38 - 105	38 - 120
	Conicity (change of diameter) up to %		0.8	
Labels	Material	Paper, plastics such as PET, PP		
	Width	mm	10 - 56	20 - 110
	Height	from mm	12	
	Roll diameter	up to mm	205	
	Core diameter	mm	38 - 76	
	Winding		outside	
Liner material width	up to mm		60	114
Ribbon	Ink side		outside or inside	
	Roll diameter	up to mm	90	
	Core diameter	mm	25	
	Variable length	up to m	600	
	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		
1xUSB host on the operation panel	for	Service Key, USB memory stick		
1xUSB host on the operation panel	for	USB WLAN stick 2.4 GHz 802.11b/g/n		
2xUSB 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	Periphery error		
	End of ribbon	Print head voltage		
	Direction of ribbon winding	Print head temperature		
	End of labels	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			

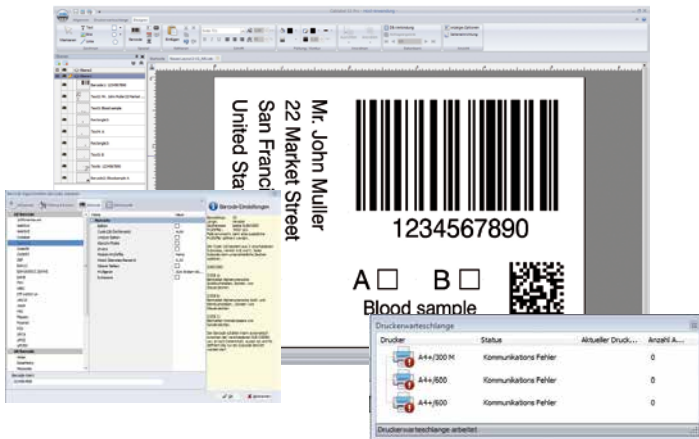
Fonts			
Character sets	Windows-1250 to -1257 DOS 437, 737, 775, 850, 852, 857, 862, 864, 866, 869 EBCDIC 500 ISO 8859-1 to -10 and -13 to -16 WinOEM 720 UTF-8 MacRoman DEC MCS KOI8-R Western European Eastern European Chinese simplified Chinese traditional Thai Cyrillic Greek Latin Hebrew Arabic		
Bitmap 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 Pro	cablabel S3 Viewer 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 ZPL II (The datastream must be tested in advance.)	abc Basic Compiler	■ □
Integration	SAP	Database Connector	■
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.



Windows¹⁾ 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's²⁾ 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 request	
	5977048.463 Label printer SQUIX 4/300MP 36 - 60 VDC, 24 VDC on request	
	5977049.463 Label printer SQUIX 4/600MP 36 - 60 VDC, 24 VDC on request	
2.2		5953700 Print roller DR4-M25
		5953701 Print roller DR4-M50
		5953702 Print roller DR4-M80
		5954180 Print roller DR4
3.1		5977767 Digital I/O interface
5.1		5979509.463 Tube applicator AXON 2 without a transport roller without a tray with a peel-off plate 56
5.2		5979920.463 Tube applicator AXON 2.1 without a transport roller without a tray without a peel-off plate
5.3		5979672 Transport roller TRV for label widths up to 56 mm <i>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.</i>
5.4		5954180 Print roller DR4 as a transport roller for label widths up to 110 mm <i>To process flat cylindrical tubes without bulges or threads protruding on a tube length of 116 mm</i>
5.5		59xxxxx Transport roller TRK for label widths up to 110 mm <i>To process all tubes having a cap or thread protruding, if alignment is not possible with a TRV or DR4 transport roller.</i>
		5535960 One-off costs for TRK
5.6		5979567 Tray AXON 2
5.7		5979627 Peel-off plate 56
5.8		5979925 Peel-off plate 110
5.9		5561500 System adjustment and check

Pos.	Part no.	Tube applicator for label printer SQUIX 4...MP
6.1		5979509 Tube applicator AXON 2 providing a TRV transport roller a tray a peel-off plate 56

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	
DVD:	Tube labeling system Power cable Type E+F, length 1.8 m Connecting cable USB, length 1.8 m Instructions DE/EN
	Instructions 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 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

Checklist labeling system AXON 2/2.1

Send the completed form to your cab contact person or email to info@cab.de



Checklist download:
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** Thermal direct
 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

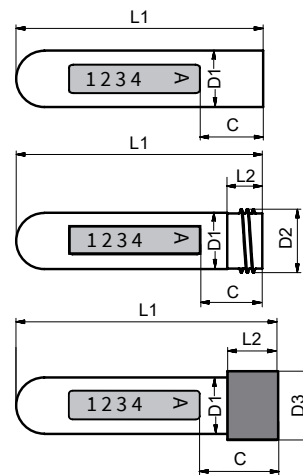
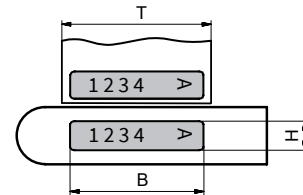
4. **Tube orientation** Open to the right the left
 5. **Tube removed** from a tray from insertion position

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 material widths up to 25 mm
 6.8 5953701 Print roller DR4-M50 for liner material widths up to 50 mm
 6.9 5953702 Print roller DR4-M80 for liner material widths up to 80 mm
 6.10 5954180 Print roller DR4 for liner material widths up to 114 mm
 6.11 5977767 Digital I/O interface

7. Tube applicator as assembly kit

- 7.1 5979509.463 Tube applicator AXON 2
 7.2 5979920.463 Tube applicator AXON 2.1
 7.3 5979672 Transport roller TRV to process all types of tubes for label widths up to 56 mm
 7.4 5954180 Print roller DR4 as a transport roller for label widths up to 110 mm
 7.5 59xxxxx Transport roller TRK user-specific for label widths up to 110 mm
 7.6 5535960 One-off costs for TRK
 7.7 5979567 Tray
 7.8 5979627 Peel-off plate 56
 7.9 5979925 Peel-off plate 110



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

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