PRODUCTION SYSTEMS

BiDisp3

A robust, flexible colour display for industrial applications

- Bright, full graphics LED matrix
- Energy-efficient and long service life
- Suitable too tough industrial environments
- CAN and RS232, Etherent, Profibus DP or Profinet

New!

PROFIBUS® PROFINET®

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BiDisp3

BiDisp3 by Binar is a new display for industrial use; it handles tougher requirements than other displays. Based on a long experience in production efficiency Binar's own, skilled engineers have developed this display. BiDisp3 is developed and produced in Trollhättan, Sweden for high quality, good functionality and good user-friendliness.

BIDISP3 INCREASES YOUR PRODUCTIVITY AND IMPROVES YOUR RELIABILITY OF SUPPLY

Visualisation of key performance indicators and other essential information is a cornerstone in any modern, efficient production system. It is important that operaters, management and maintenance staff quickly can acquire an overview of the situation, allowing them to take prompt action and feel part of the system.

BiDisp3 is a flexible, powerful display for use in an industrial environment. Bright, energy-efficient LED technology is used for presentation of text and graphics. The display has three font colours: Red, Green and Yellow.

The display is intended for use at short to medium distances, 1 to 15 metres. Using the largest font, it can be used for distances up to 40 metres. If even better readability is required, another Binar product is available that is readable at a distance of up to 80 metres.

BiDisp3 is ideal for providing information to operaters at a workstation or displaying operating information from a machine, e.g. part counting or OEE. The models with a high degree of IP protection class, IP65 also makes it possible to use the display in harsh environments.

The colour display can be used to indicate the current status quickly and clearly, e.g. red for Stop, yellow for Comment and green for Good. Graphic arrows can be used to show rising and falling trends. Dynamic bars can be used to show a percentage from 0-100 with a change of colour for different intervals.

The control commands sent to the display cover the information that will be shown and how it will be shown. The user can control the positioning, size, font, font colour and background colour.

The character table is a modified ASCII table that supports a large selection of European characters. These are supplemented by graphic symbols to expand the range of applications. The light intensity can be adjusted universally in the range 1-100%.

TECHNICAL DATA

Readability distance	Up to 40m
Font size	Small: w 19 x h 27mm Large: w 31 x h 63mm Centred: w 31 x h 59mm
Font colour	Red, Green and Yellow
Communication	CAN and RS232 Ethernet Profibus DP Profinet * Modbus RTU, DeviceNet and CanOpen available on request.
CE	EN 61000-6-4 och EN 61000-6-2
Power supply	20 - 32VDC
IP Code	IP41 or IP65
Temperature Range	-20 - 50°C
Humidity	0 - 95% non-condensing
Mounting	M5 adjusting slot on the upper and lower edge (brackets are included) as well as longitudinal screw ports (ST 4.2.B8) on the back.

Do you want to learn more?

Contact your nearest distributor or Binar Elektroniks head office for more info.

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ENHANCED CLARITY

The bright, full graphics LED matrix provides a readability of up to 40 m. Different font colors in Red, Green and Yellow gives the information a greater value and clearer production visualization. The display gives you much more useful information than traditional lighting towers, which are often used on machines. By supplementing the text to the color, the clarity of information is enhanced.

A WIDE RANGE OF APPLICATIONS

You could display; Actual value, Setpoint, Status, OEE, Alarm messages, Downtime, Takt time, Andon alarm, Number of discarded etc.

USER FRIENDLY

The menu contains a library of control commands that makes it possible to easily and efficiently control the display in real time.

COMPATIBLE

It uses powerful communication interfaces; CAN and RS232, Ethernet, Profibus DP or Profinet. This way you can easily connect it to most existing systems, regardless of brand. Sample programs can be downloaded on our website.

ENERGY-EFFICIENT & LONG SERVICE LIFE

It is an excellent energy saving measure to use a LED display. LEDs consume significantly less energy and have a very long service life time, usually over 100,000 hours.

EASY MOUNTING

Mounting the display is easily done on a wall or hanging from a wire, brackets are included.

Other communication?

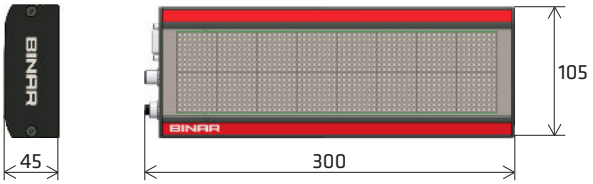
Modbus RTU, DeviceNet and CanOpen are availble at request.

VARIANTS

64x16px

PART NO.	NAME	COMMUNICATION	NO. OF PORTS	IP CODE
54400	BiDisp3/64/CAN2	CAN + RS232	2	IP41
54410	BiDisp3/64/ETH1	Ethernet	1	IP41
54412	BiDisp3/64/ETH1/IP65	Ethernet	1	IP65
54420	BiDisp3/64/PB2	Profibus DP	2	IP41
54422	BiDisp3/64/PB2/IP65	Profibus DP	2	IP65
54430	BiDisp3/64/PN1	Profinet	1	IP41
54432	BiDisp3/64/PN1/IP65	Profinet	1	IP65

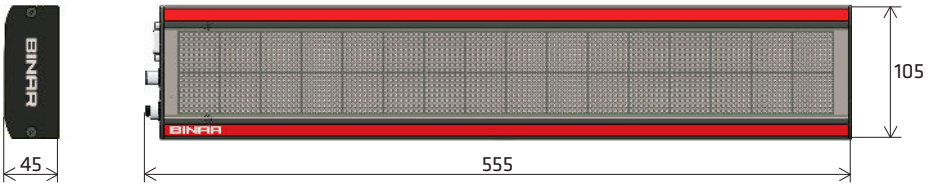
TECHNICAL DATA	
No. of Characters	up to 20
Dimensions	w 300 x h 105 x d 43mm
Weight	0.9kg
Power Consumption	0.25-0.8A at 24V



128x16px

PART NO.	NAME	COMMUNICATION	NO. OF PORTS	IP CODE
54405	BiDisp3/128/CAN2	CAN + RS232	2	IP41
54415	BiDisp3/128/ETH1	Ethernet	1	IP41
54417	BiDisp3/128/ETH1/IP65	Ethernet	1	IP65
54425	BiDisp3/128/PB2	Profibus DP	2	IP41
54427	BiDisp3/128/PB2/IP65	Profibus DP	2	IP65
54435	BiDisp3/128/PN1	Profinet	1	IP41
54437	BiDisp3/128/PN1/IP65	Profinet	1	IP65

TECHNICAL DATA	
No. of Characters	up to 42
Dimensions	w 555 x h 105 x d 43mm
Weight	1.6kg
Power Consumption	0.5-1.6A at 24V



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BiDisp3 - CAN & RS232

Control commands are sent via two different interfaces together with the text that will be displayed on the display.

Power supply:

CAN bus, where a 24V DC power supply is also connected. The display can be connected directly to Binar's production support system.

RS232 serial communication, 24V DC power supply to the CAN bus port.

TECHNICAL DATA

Communication	CAN and RS232	
No. of Ports	2	
Power Supply	20-32VDC	
Data Transfer	CAN, 125kbit/s RS232, 9600 (default) -115200 bit/s	
IP Code	IP41	
Temperature Range	-20 - 50°C	
Humidity	0 - 95% non-condensing	
	164 x 16 px	**128 x 16 px**
No. of Characters	up to 20	up to 42
Dimensions	w 300 x h 105 x d 43mm	w 555 x h 105 x d 43mm
Weight	0.9kg	1.6kg
Power Consumption	0.25-0.8A at 24V	0.5-1.6A at 24V

STATUS INDICATION

The LEDs on the side of the display shows the status.

PWR	=	Power 24VDC OK
BUS	=	Bus OK
ERR	=	Internal / Communication error

CONNECTORS

RS232

Dsub, 9-pin, Female

PIN	Signal
1	N.C.
2	TXD
3	RXD
4	N.C.
5	GND
6	N.C.
7	N.C.
8	N.C.
9	N.C.

CAN IN

M12, 5-pin, Male, A Code

PIN	Signal
1	Sheild
2	+24V
3	0V
4	CAN high
5	CAN low

CAN OUT

M12, 5-pin, Female, A Code

PIN	Signal
1	Sheild
2	+24V
3	0V
4	CAN high
5	CAN low

Compatible?

It can be connected directly to Binar Production System, BPS.

ADDRESSING

The unit has a unique MAC address, which is printed on the label on the bottom of the display in the form of a hexadecimal number and a barcode. The MAC address also appears on the display for three seconds when the power is turned on.

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BiDisp3 - ETHERNET

Control commands are sent via standrad interfaces together with the text that will be displayed. 24VDC are supplied via the power supply connector.

Protocol:

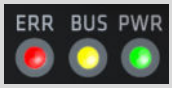
- Basic Frame Format, Raw ASCII over Ethernet, port 3027.

TECHNICAL DATA

Communication	Ethernet, TCP	
No. of Ports	1	
Power Supply	20-32VDC	
Data Transfer	10/100Mbit/s	
IP Code	IP41 or IP65	
Temperature Range	-20 - 50°C	
Humidity	0 - 95% non-condensing	
	164 x 16 px	**128 x 16 px**
No. of Characters	up to 20	up to 42
Dimensions	w 300 x h 105 x d 43mm	w 555 x h 105 x d 43mm
Weight	0.9kg	1.6kg
Power Consumption	0.25-0.8A at 24V	0.5-1.6A at 24V

STATUS INDICATION

The LEDs on the side of the display shows the status.



PWR = Power 24VDC OK
BUS = Communication OK
ERR = Internal / Communication error

SET

Information:
- Software ver
- Part No.
- Power

Set:
- Protocol

UP

Scroll up

DOWN

Scroll down

(For instructions, see p.9)

CONNECTORS

BUS IN

M12, 4-pin, Female, D Code

PIN	Signal
1	TX +
2	RX +
3	TX -
4	RX -

MATNING

M12, 4-pin, Male, A Code

PIN	Signal
1	+24V
2	N.C.
3	0V
4	N.C.

Change protocol?

You need to restart the display in order for the change of protocol to take affect.

ADDRESSING

The IP address is displayed at power-up. All the network settings are made in the BiDisp3/ETH internal web page, no username or password required. The settings can also be done using separate software.
The unit has a unique MAC address, which is printed on the label on the bottom of the display in the form of a hexadecimal number and a barcode.

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BiDisp3 - PROFIBUS

Control commands are sent via standrad interfaces together with the text that will be displayed. 24VDC are supplied via the power supply connector.

TECHNICAL DATA

Communication	Profibus	
No. of Ports	2	
Power Supply	20-32VDC	
Data Transfer	9.6kbit/s - 12Mbit/s	
IP Code	IP41 or IP65	
Temperature Range	-20 - 50°C	
Humidity	0 - 95% non-condensing	
	164 x 16 px	**128 x 16 px**
No. of Characters	up to 20	up to 42
Dimensions	w 300 x h 105 x d 43mm	w 555 x h 105 x d 43mm
Weight	0.9kg	1.6kg
Power Consumption	0.25-0.8A at 24V	0.5-1.6A at 24V

STATUS INDICATION

The LEDs on the side of the display shows the status.

PWR	=	Power 24VDC OK
BUS	=	Bus OK
ERR	=	Internal / Communication error

SET

Information:
- Software ver
- Part No.
- Power

Set:
- Address

UP

Scroll up

DOWN

Scroll down

(For instructions, see p.9)

CONNECTORS

BUS IN

M12, 5-pin, Male, B Code

PIN	Signal
1	N.C.
2	RxD / TxD-N (A)
3	N.C.
4	RxD / TxD-P (B)
5	Sheild

BUS OUT

M12, 5-pin, Female, B Code

PIN	Signal
1	5V
2	RxD / TxD-N (A)
3	0V
4	RxD / TxD-P (B)
5	Sheild

Power Supply

M12, 4-pin, Female, A Code

PIN	Signal
1	+24V
2	N.C.
3	0V
4	N.C.

It is certified!

Binar is a member of the association *PROFIBUS in Sweden*, **PI Sweden** and the product is certified accordning to the *PROFIBUS Nutzerorganisation*, **PNO**.

ADDRESSING

To assign the unit an address, use the buttons on the unit's short side. Allowed address range is 1 to126.

BINAR BiDisp3/64/PB
Part No.: 54420

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BiDisp3 - PROFINET

Control commands are sent via a standrad interface together with the text that will be displayed. 24VDC are supplied via the power supply connector.

GSDML file for configuration is available for download at the link website.

TECHNICAL DATA

Communication	Profinet	
No. of Ports	1	
Power Supply	20-32VDC	
Data Transfer	10/100Mbit/s	
IP Code	IP41 or IP65	
Temperature Range	-20 - 50°C	
Humidity	0 - 95% non-condensing	
	164 x 16 px	**128 x 16 px**
No. of Characters	up to 20	up to 42
Dimensions	w 300 x h 105 x d 43mm	w 555 x h 105 x d 43mm
Weight	0.9kg	1.6kg
Power Consumption	0.25-0.8A at 24V	0.5-1.6A at 24V

STATUS INDICATION

The LEDs on the side of the display shows the status.

PWR	=	Power 24VDC OK
BUS	=	Bus OK
ERR	=	Internal / Communication error

SET

Information:
- Sotware ver
- Part No.
- Power

UP

Scroll up

DOWN

Scroll down

(For instructions, see p.9)

CONNECTORS

BUS IN

M12, 4-pin, Female, D Code

PIN	Signal
1	TX +
2	RX +
3	TX -
4	RX -

Power Supply

M12, 4-pin, Male, A Code

PIN	Signal
1	+24V
2	N.C.
3	0V
4	N.C.

It is certified!

Binar is a member of the association *PROFIBUS in Sweden*, **PI Sweden** and the product is certified accordning to the *PROFIBUS Nutzerorganisation*, **PNO**.

ADDRESSING

The unit has a unique MAC address, which is printed on the label on the bottom of the display in the form of a hexadecimal number and a barcode.

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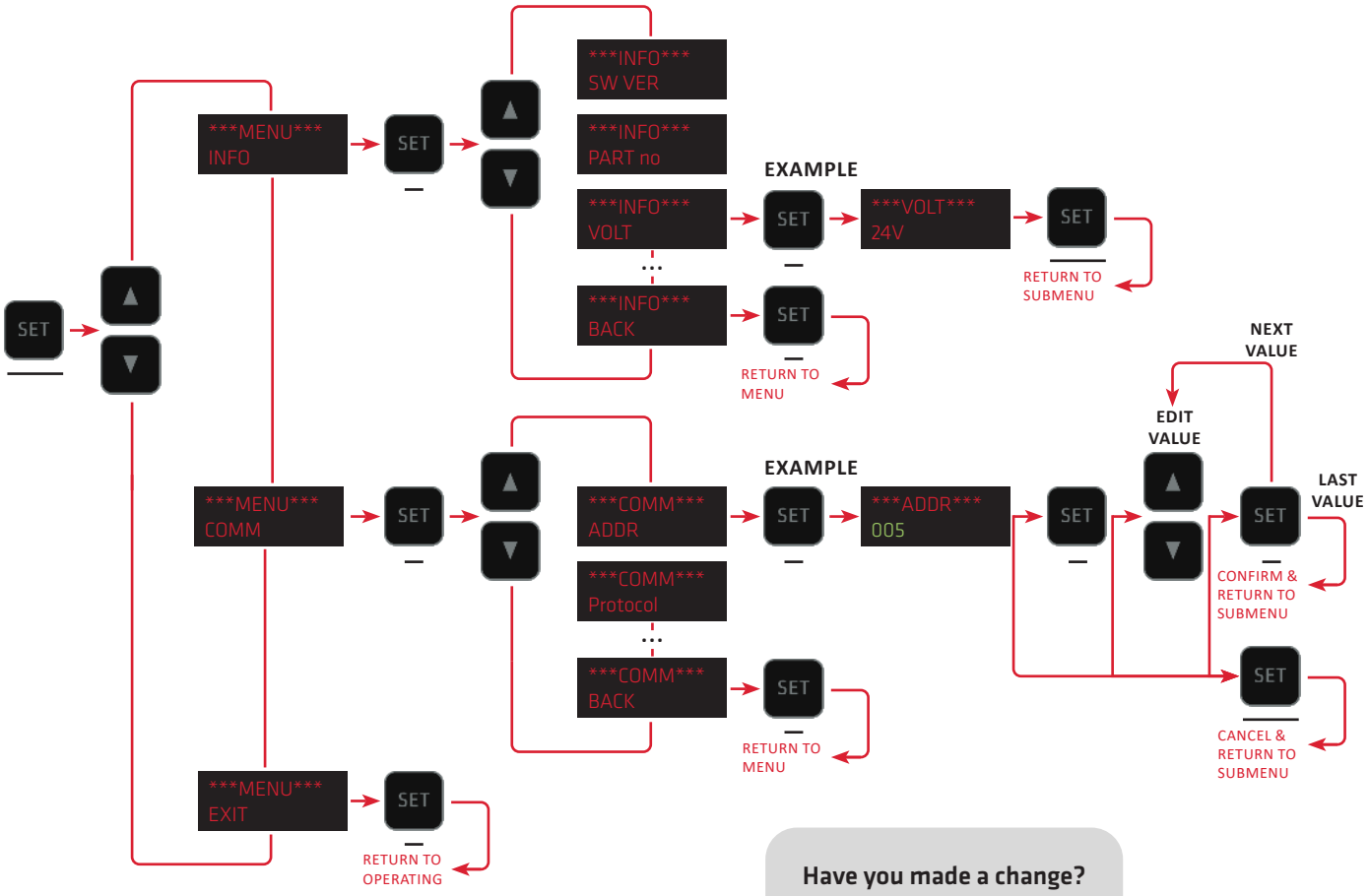
KEYPAD

KEY FUNCTION				
		OPERATING	MENU	EDITING
SET	—*		Enter Editing or submenu	Confirm and Return
	———**	Enter Menu	Return	Cancel and Return
▲	—		Scroll up	
	———		Scroll up	
▼	—		Scroll down	
	———		Scroll down	

* CClick
** Hold in 3 s

MENU SYSTEM



Have you made a change?

Restart the display in order for the change to take affcet.

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CHARACTER LIST

The character list follows the **ISO/IEC 8859-15** standard.
Special characters are available according to codes 127-159 (decimal), see areas marked in Grey.

DEC		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	HEX	x0	x1	x2	x3	x4	x5	x6	x7	x8	x9	xA	xB	xC	xD	xE	xF
32	2x	SP	!	”	#	$	%	&	’	(	)	*	+	,	-	.	/
48	3x	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
64	4x	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
80	5x	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
96	6x	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
112	7x	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	Δ
128	8x	↑	↓	←	→	↖	↗	↘	↙	▮	▮	▮	▮	½	¼	■	□
144	9x	▣	○	◉	■	▬	•	–		▁	▁	▁	▁	■	■	■	■
160	Ax	NBSP	¡	¢	£	€	¥	Š	§	š	©	ª	«	¬	SHY	®	¯
176	Bx	°	±	²	³	Ž	µ	¶	·	ž	¹	º	»	Œ	œ	Ÿ	¿
192	Cx	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
208	Dx	Đ	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
224	Ex	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
240	Fx	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

SMALL

5 x 7px (19 x 27mm), can be displayed on two

LARGE

8 x 16px (31 x 63mm)

CENTERED

8 x 15px (31 x 59mm)

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CONTROL COMMANDS

Below is a description of the procedure, using parameters, for setting up what will be shown on the display and how it will be shown. Note that the parameters always begin with a hyphen and are separated by a space. The string then ends with <CR> and/or <LF>.

GENERAL COMMANDS

(Affects the whole display and all its defined text areas.)

LIGHT INTENSITY	**-i***n*	Where *n* = 0-100%, 0 is OFF
BAUDRATE	**-b***n*	*n*=9600 (default), 19200, 38400, 57600 or 115200 The setting is shown on the display when the power is turned on
SAVE	**-sav**	Stores light intensity and baud rate settings and is enabled automatically during the next start-up
VERSION	**-v**	Shown on the display using the format x.y.z, e.g. '1.1.2'
RESET	**-dac**	Restores parameters to the default setting for all defined text areas

TEXT AREA-BASED COMMANDS

(Controls only a defined text area, n = 0 is the default)

TEXT AREA	**-sc***n*	Choose a text area, where *n* = 0-15		
POSITION & SIZE	**-sg***x*,*y*,*w*,*h*	State the text area position and size in pixels, *x*,*y* = (0.0 – 63/127.15) starting position in the upper left-hand corner, *w* = width, *h* =height No check is made in the display on whether the text areas overlap each other		
FONT	**-f***n*	Small Large Centered	5 x 7 px 8 x 16 px 8 x 15 px	*n* = 0 *n* = 1 *n* = 2
SPACING	**-sls***n*	*n* = 0 - 8, *n* = 8 gives the biggest spacing		
HORIZONTAL ALIGNMENT	**-sha***n*	Align Left Align Right Center	*n* = 0 *n* = 1 *n* = 2	When scroll is enabled, the text is aligned to the left
VERTICAL ALIGNMENT	**-sva***n*	Align Top Align Bottom Center	*n* = 0 *n* = 1 *n* = 2	
FONT WIDTH	**-sfm***n*	Proportional Fixed	*n* = 0 *n* = 1	The characters are displayed with proprtional width The characters 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, Space, +, -, / and * are displayed with fixed width

FONT COLOUR	**-cf*n***	OFF	*n* = 0
		Red	*n* = 1
		Green	*n* = 2
		Yellow	*n* = 3
TEXT DISPLAY	**-t"*text*"**	The characters that will be displayed are marked using " ". If more characters are sent than there is space for within a defined area, only the first characters are shown	
BACKGROUND COLOUR	**-cb*n***	OFF	*n* = 0
		Red	*n* = 1
		Green	*n* = 2
		Yellow	*n* = 3
ROTATE	**-sr*n***	Rotate 0°	*n* = 0
		Rotate 90° anticlockwise	*n* = 1
		Rotate 180°	*n* = 2
		Rotate 270° anticlockwise	*n* = 3
SCROLL	**-nss*n***	OFF	*n* = 0
		ON	*n* = 1 - 16, *n* = 16 gives the highest scrollning speed
FLASH	**-r*n***	OFF	*n* = 0
		ON	*n* = 1
DELETE	**-clr**	Text deleted	
RESET	**-dc**	Restores parameters to default settings for the chosen text area	
HIDE/SHOW	**-show*n***	Hide	*n* = 0
		Show	*n* = 1

EXAMPEL

-dac -i100
-sc0 -sg0,0,30,16 -sfm1 -f1 -cf2 -t"123"
-sc1 -sg30,0,34,8 -f0 -cf1 -t"ABCDEF"
-sc2 -sg30,8,34,8 -f0 -cf3 -t"GHIJKL" <CR>

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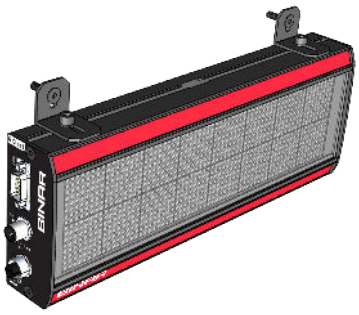
ACCESSORIES

BRACKET

Binar's flexible bracket is included with the display and allows the display to be mounted on a flat surface, such as a wall or similar surface. It can also be hung from the ceiling. See examples of mounting options below. The screw adjusting slots are adapted for M5.

PART NO.	DESCRIPTION
35277	Bracket BiDisp3

Screws or wire for hanging is not included.



COLOUR STRIP

The red strip is standard for BiDisp3 although the strip can be easily replaced. Binar's colour strips are ordered separately and can be used as distinguishers when several displays are mounted on top of each other or to show the display's area affiliation.

The groove for the colour strip is also adapted for Dymo tape, making it easy for you to create your own strips.

PART NO.	DESCRIPTION
35230	Red
35231	Yellow
35232	Light Blue
35233	Green
35234	Purple
35235	Brown
35236	Dark Blue
35237	White
35238	Orange
35239	Grey

POWER SUPPLY

Binar provides power supply units.
The units are ordered separately.

PART NO.	DESCRIPTION	FOR
50327	LP-PW5, M12, 30VDC, 4A	BiDisp3/128/CAN2
50326	LP-PW6, M12, 24VDC, 1.3A	BiDisp3/64/CAN2
51323	LP-PW7, M12, 24VDC, 1.3A	BiDisp3/64/ETH1-PB2-PN1
51324	LP-PW8, M12, 30VDC, 4A	BiDisp3/128/ETH1-PB2-PN1
51325	LP-PW9, M12, 24VDC, 6.3A	BiDisp3/64-128/ETH1-PB2-PN1/IP65

DISTRIBUTOR

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