SD50 with IO-Link Status Display Product Manual

Original Instructions
p/n: 242037 Rev. E
24-Sep-26
© Banner Engineering Corp. All rights reserved. www.bannerengineering.com

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Contents

Chapter 1 Features 3
Models 3

Chapter 2 Wiring 4

Chapter 3 IO-Link Data Map 5
Process Data Out: Run Mode 5
Process Data Out: Message Mode 7
Process Data Out: Measure Mode 9
Process Data Out: Timer Mode 10
Process Data Out: Counter Mode 10
Index 0: Direct Parameters 1 10
Index 1: Direct Parameters 2 11
Index 2: Standard Command 11
Index 12: Device Access Locks 12
Index 16: Vendor Name 12
Index 17: Vendor Text 12
Index 18: Product Name 12
Index 19: Product ID 12
Index 20: Product Text 12
Index 21: Serial Number 12
Index 22: Hardware Version 13
Index 23: Firmware Version 13
Index 24: Application Specific Tag 13
Index 36: Device Status 13
Index 37: Detailed Device Status 13
Index 80: Operating Mode Selection 13
Index 81: Additional Settings 13
Index 82: Display Settings 14
Index 83: Timer/Counter Mode Settings 15
Index 84: Measure General Configuration 15
Index 85: Measure Base Configuration 16
Index 86: Measure Threshold 1 Configuration 19
Index 87: Measure Threshold 2 Configuration 21
Index 88: Measure Threshold 3 Configuration 24
Index 89: Measure Threshold 4 Configuration 26
Index 90: Custom 1 29
Index 91: Custom 2 29
Index 92: Message Mode Settings 30
Index 93: Message Mode Settings, Continued 30
Index 94: Custom Audible Settings 30

Chapter 4 Specifications 32
FCC Part 15 Class B for Unintentional Radiators 32
Industry Canada ICES-003(B) 32
Dimensions 33

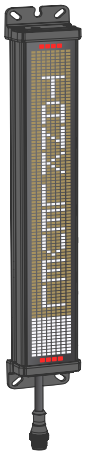
Chapter 5 Accessories 34
Cordsets 34
Mounting Brackets 34

Chapter 6 Product Support and Maintenance 35
Encoding Table and Unicode Characters 35
Clean with Mild Detergent and Warm Water 39
Repairs and Translations (No Field-Replaceable Parts) 39
Contact Us 42
Banner Engineering Corp Limited Warranty 42
Mexican Importer 42

© Banner Engineering Corp. All rights reserved. www.bannerengineering.com

Chapter 1 Features

Provide More Status Information in the Most Helpful Locations



- Easily configurable, versatile display can be installed nearly anywhere, making it a simple yet powerful alternative to complex HMIs and other displays
- Great for displaying takt time, equipment status, assembly sequences, counts, and measurements where they are most useful
- Integrates into many different systems and applications, especially Banner sensing, safety, and monitoring solutions
- Quick and easy configuration—simply define the desired text and call it via discrete control or process data
- Bright white LED display and multicolored status LEDs legible from 10 meters away inform operators about exactly what is going on so they can respond quickly and accurately
- IP65-rated polycarbonate housing resists impact and condensation to provide clear communication in challenging and changing environmental conditions

IMPORTANT: Read the following instructions before operating the light. Please download the complete SD50 with IO-Link Status Display technical documentation, available in multiple languages, from www.bannerengineering.com for details on the proper use, applications, Warnings, and installation instructions of this device.

IMPORTANT: Lea el siguiente instructivo antes de operar el luminario. Por favor descargue desde www.bannerengineering.com toda la documentación técnica de los SD50 with IO-Link Status Display, disponibles en múltiples idiomas, para detalles del uso adecuado, aplicaciones, advertencias, y las instrucciones de instalación de estos dispositivos.

IMPORTANT: Lisez les instructions suivantes avant d'utiliser le luminaire. Veuillez télécharger la documentation technique complète des SD50 with IO-Link Status Display sur notre site www.bannerengineering.com pour les détails sur leur utilisation correcte, les applications, les notes de sécurité et les instructions de montage.

Models

Model Key

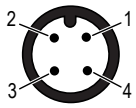
Series	Height	Style	Display Length	Display Text Color	Control	Audible	Connector[1]
SD	**50**	**P**	**300**	**W**	**K**		**QP**
Status Display	50 mm height	P = Pro	300 = 300 mm	W = White	K = IO-Link	Blank = No audible A = Audible	QP = 150 mm (6 in) PVC-jacketed cable with a 4-pin M12 male quick-disconnect connector

[1] Models with a quick-disconnect connector require a mating cordset.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Chapter 2 Wiring

IO-Link Wiring

4-Pin Male M12 Pinout	Pinout Key and Wiring
	1. Brown - 18 V DC to 30 V DC 2. White - Not used 3. Blue - DC Common 4. Black - IO-Link Communication

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Chapter 3 IO-Link Data Map

SD50 with IO-Link Status Display

Vendor ID	451 (0x01c3)
Vendor Name	Banner Engineering Corporation
Vendor Text	More Sensors. More Solutions.
Vendor URL	www.bannerengineering.com/io-link
Device ID	393235 (0x060013)
Device Family	Status Display

Features

Block Parameter	Yes
Data Storage	Yes
Supported Access Locks	Parameter: Yes Data Storage: Yes Local Parameterization: No Local User Interface: No

Communication

IO-Link Revision	V1.1
Transmission Rate	38400 bit/s (COM2)
Minimum Cycle Time	20 ms
SIO Mode Supported	No
M-Sequence Capability	PREOPERATE = TYPE_0 with 1 octet on-request data OPERATE = TYPE_2_V with 1 octet on-request data ISDU supported

Device Variant

Description	SD50 with IO-Link Status Display
Product ID	SD50P300WKQP
Connection Type	150 mm (6 in) PVC-jacketed cable with a 4-pin M12 male quick-disconnect connector
- Pin 1	Brown: L+
- Pin 2	White: Other
- Pin 3	(light) Blue: L-
- Pin 4	Black: C/Q

Process Data Out: Run Mode

Bit Length: 256

Data Type: 256-bit Record

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
1	0	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Flash 6 = Intensity Sweep 7 = Two Color Sweep		Animation	The Animation type.
2	4	4-bit UInteger	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom 1 15 = Custom 2		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
3	8	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom		Color 1 Intensity	The intensity of Color 1. Custom Intensity is defined in Parameter Data.
4	11	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom		Speed	The speed of the Animation.
5	13	3-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS 4 = Random		Pulse Pattern	The pattern of the Animation.

Continued on page 6

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 6

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
6	16	4-bit UInteger	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom 1 15 = Custom 2		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
7	20	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom		Color 2 Intensity	The intensity of Color 2. Custom Intensity is defined in Parameter Data.
8	24	8-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Staccato 6 = Siren 7 = Continuous 1 8 = Continuous 2 10 = Jingle 11 = Melody 1 12 = Melody 2 13 = Melody 3 14 = Custom		Audible Type	The audible tone played when active.
9	32	29-octet Strong UTF-8			Display Text	The text displayed on the screen when Run Mode is active.

Process Data Out: Message Mode

Bit Length: 256

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Data Type: 256-bit Record

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
1	216	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Flash 6 = Intensity Sweep 7 = Two Color Sweep		Animation	The Animation type.
2	220	4-bit UInteger	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom 1 15 = Custom 2		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
3	224	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom		Color 1 Intensity	The intensity of Color 1. Custom Intensity is defined in Parameter Data.
4	227	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom		Speed	The speed of the Animation.
5	229	3-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS 4 = Random		Pulse Pattern	The pattern of the Animation.

Continued on page 9

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 8

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
6	232	4-bit UInteger	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom 1 15 = Custom 2		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
7	236	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom		Color 2 Intensity	The intensity of Color 2. Custom Intensity is defined in Parameter Data.
8	240	8-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Staccato 6 = Siren 7 = Continuous 1 8 = Continuous 2 10 = Jingle 11 = Melody 1 12 = Melody 2 13 = Melody 3 14 = Custom		Audible Type	The audible tone played when active.
9	248	4-bit UInteger	1..13 = Message Selection (1-13)		Message Selection 1	Message Mode Message Selection 1 (1-13)
10	252	4-bit UInteger	1..13 = Message Selection (1-13)		Message Selection 2	Message Mode Message Selection 2 (1-13

Process Data Out: Measure Mode

Bit Length: 256

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Data Type: 256-bit Record

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
1	240	16-bit UInteger			Measure Mode Value	The value describing the device's level. The range is defined in Measure Mode Parameter Data.

Process Data Out: Timer Mode

Bit Length: 256

Data Type: 256-bit Record

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
1	254	Boolean			Run Timer	Run the timer in Timer Mode.
2	255	Boolean			Reset Timer	Reset the time in Timer Mode.

Process Data Out: Counter Mode

Bit Length: 256

Data Type: 256-bit Record

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
1	253	Boolean			Increment Count	Increase the counter value when in Counter Mode.
2	254	Boolean			Decrement Count	Decrease the counter value when in Counter Mode.
3	255	Boolean			Reset Count	Reset the count in Counter Mode.

Index 0: Direct Parameters 1

Data Type: 128-bit Record

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	120	8-bit UInteger		0	RO	Reserved	
2	112	8-bit UInteger		0	RO	Master Cycle Time	
3	104	8-bit UInteger		0	RO	Min Cycle Time	
4	96	8-bit UInteger		0	RO	M-Sequence Capability	
5	88	8-bit UInteger		17	RO	IO-Link Version ID	
6	80	8-bit UInteger		0	RO	Process Data Input Length	
7	72	8-bit UInteger		0	RO	Process Data Output Length	
8	64	8-bit UInteger		0	RO	Vendor ID 1	
9	56	8-bit UInteger		0	RO	Vendor ID 2	

Continued on page 11

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 10

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
10	48	8-bit UInteger		0	RO	Device ID 1	
11	40	8-bit UInteger		0	RO	Device ID 2	
12	32	8-bit UInteger		0	RO	Device ID 3	
13	24	8-bit UInteger		0	RO	Reserved	
14	16	8-bit UInteger		0	RO	Reserved	
15	8	8-bit UInteger		0	RO	Reserved	
16	0	8-bit UInteger	130 = Restore Factory Settings	0	WO	Standard Command	

Index 1: Direct Parameters 2

Data Type: 128-bit Record

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	120	8-bit UInteger		0		Device Specific Parameter 1	
2	112	8-bit UInteger		0		Device Specific Parameter 2	
3	104	8-bit UInteger		0		Device Specific Parameter 3	
4	96	8-bit UInteger		0		Device Specific Parameter 4	
5	88	8-bit UInteger		0		Device Specific Parameter 5	
6	80	8-bit UInteger		0		Device Specific Parameter 6	
7	72	8-bit UInteger		0		Device Specific Parameter 7	
8	64	8-bit UInteger		0		Device Specific Parameter 8	
9	56	8-bit UInteger		0		Device Specific Parameter 9	
10	48	8-bit UInteger		0		Device Specific Parameter 10	
11	40	8-bit UInteger		0		Device Specific Parameter 11	
12	32	8-bit UInteger		0		Device Specific Parameter 12	
13	24	8-bit UInteger		0		Device Specific Parameter 13	
14	16	8-bit UInteger		0		Device Specific Parameter 14	
15	8	8-bit UInteger		0		Device Specific Parameter 15	
16	0	8-bit UInteger		0		Device Specific Parameter 16	

Index 2: Standard Command

Data Type: 8-bit UInteger

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Allowed Values: 130 = Restore Factory Settings

Access Rights: WO

Modifies other variables.

Index 12: Device Access Locks

Data Type: 16-bit Record (subindex access not supported)

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	Boolean		FALSE		Parameter (write) Access Lock	
2	1	Boolean		FALSE		Data Storage Lock	
3	2	Boolean				Local Parameterization Lock	
4	3	Boolean				Local User Interface Lock	

Index 16: Vendor Name

Data Type: 64-octet String UTF-8

Default Value: "Banner Engineering Corporation"

Access Rights: RO

Index 17: Vendor Text

Data Type: 64-octet String UTF-8

Default Value: "More Sensors. More Solutions."

Access Rights: RO

Index 18: Product Name

Data Type: 64-octet String UTF-8

Access Rights: RO

Index 19: Product ID

Data Type: 64-octet String UTF-8

Access Rights: RO

Index 20: Product Text

Data Type: 64-octet String UTF-8

Access Rights: RO

Index 21: Serial Number

Data Type: 16-octet String UTF-8

Access Rights: RO

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Index 22: Hardware Version

Data Type: 64-octet String UTF-8

Access Rights: RO

Index 23: Firmware Version

Data Type: 64-octet String UTF-8

Access Rights: RO

Index 24: Application Specific Tag

Data Type: 32-octet String UTF-8

Access Rights: RW

Index 36: Device Status

Data Type: 8-bit UInteger

Allowed Values:

- 0 = Device is OK
- 1 = Maintenance required
- 2 = Out of specification
- 3 = Functional check
- 4 = Failure
- 5..255 = Reserved

Access Rights: RO

Dynamic

Index 37: Detailed Device Status

Data Type: Array[6] of 3-octet OctetString (subindex access not supported)

Access Rights: RO

Dynamic

Index 80: Operating Mode Selection

Description: Operating Mode Selection

Data Type: 8-bit UInteger

Allowed Values:

- 0 = Run Mode
- 1 = Message Mode
- 2 = Measure Mode
- 3 = Timer Mode
- 4 = Counter Mode

Default Value: 0

Access Rights: RW

Index 81: Additional Settings

Description: Additional Settings

Data Type: 32-bit Record

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	8-bit UInteger		100		Custom Intensity (%)	The customizable intensity of the color, defined as a percentage.
2	8	8-bit UInteger		15		Custom Flash Rate (0.5 - 20)	The customizable flash rate of the animation.
3	16	8-bit UInteger		100		Custom Display Intensity (%)	The customizable intensity of the display, defined as a percentage.
4	24	8-bit UInteger		15		Custom Display Scroll Speed (0 - 255)	The customizable scroll speed of the display.

Index 82: Display Settings

Description: Display Settings

Data Type: 16-bit Record (subindex access not supported)

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	Boolean	false = White true = Black	0		Display Text Color	Sets the display text color to white or black.
2	1	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom	0		Display Intensity	Defines the level of intensity for the display.
3	4	Boolean	false = Towards the connector true = Away from the connector	0		Display Scroll Direction	Sets the scroll direction of the display text, either towards or away from the connector.
4	5	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Display Scroll Speed	Defines the speed at which the display text scrolls, when Display Scroll Mode is defined as Auto or On.
5	7	Boolean	false = Off true = On	0		Display Mirroring	Mirrors the display text so that it is readable through a mirror.
6	8	2-bit UInteger	0 = Auto 1 = On 2 = Off	0		Display Scroll Mode	Defines whether the device scrolls the display text. When defined as Auto, the display text scrolls if the string length (in pixels) is greater than the display's width.

Continued on page 15

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 14

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
7	10	2-bit UInteger	0 = 0 1 = 180 2 = 90 3 = 270	0		Display Orientation	The amount of rotation applied to the display text.
8	12	2-bit UInteger	0 = Left 1 = Right 2 = Center	0		Display Justification	The justification of the display text as left, right, or center aligned when the device is not scrolling.

Index 83: Timer/Counter Mode Settings

Description: Timer/Counter Mode Settings

Data Type: 40-bit Record (subindex access not supported)

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	16-bit UInteger		10		Value	The numerical value to count up to or down from.
2	16	8-bit UInteger	0 = Seconds 1 = Deciseconds 2 = Centiseconds 3 = Milliseconds	0		Timer Unit Type	Defines the timer unit used along with the timer value to determine the total time for the timer. Only applicable for Timer Mode.
3	24	8-bit UInteger	0 = Down 1 = Up	1		Timer Count Type	Define if the Value counts up or counts down.
4	32	8-bit UInteger	0 = Disabled 1 = Enabled	0		Enable Auto Reload	Enable or disable the counter or timer Value automatically reloading after reaching the end of its cycle.

Index 84: Measure General Configuration

Description: Settings Measure/Timer/Counter General

Data Type: 288-bit Record (subindex access not supported)

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	8-bit UInteger	0 = Off 1 = Low 2 = Medium 3 = High	0		Filtering	The amount of filtering for Measure Mode.

Continued on page 16

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 15

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
2	8	8-bit UInteger	0 = Off 1 = Low 2 = Medium 3 = High	0		Hysteresis	The hysteresis for Thresholds.
3	16	16-octet String UTF-8		"Time="		Measure/Timer/ Counter Mode Data Label	The text that precedes the Measure/Timer/ Counter Mode Value, up to 16 characters.
4	144	8-bit UInteger	0 = Disabled 1 = Enabled	1		Measure/Timer/ Counter Mode Value	Enable or disable the display of the Measure/Timer/ Counter Mode Value.
5	152	8-bit UInteger	0 = Disabled 1 = Enabled	1		Measure/Timer/ Counter Mode Bar Graph	Enable or disable the display of the Measure/Timer/ Counter Mode Bar Graph.
6	160	16-bit UInteger		0		Output Scale Value Low	The lowest number displayed.
7	176	16-bit UInteger		10		Output Scale Value High	The highest number displayed.
8	192	16-bit UInteger		0		Input Scale Value Low	The lowest number inputted by the Level Mode Process Data. Set to 0 in Timer/ Counter Mode.
9	208	16-bit UInteger		65535		Input Scale Value High	The highest number inputted by the Level Mode Process Data. Set to 65535 in Timer/ Counter Mode.
10	224	4-octet String UTF-8		"s"		Measure/Timer/ Counter Mode Value Label	The text that follows the Measure/Timer/ Counter Mode Value, up to 4 characters.
11	256	8-bit UInteger	0 = 0 1 = 180 2 = 90 3 = 270	0		Measure/Timer/ Counter Mode Display Orientation	The orientation of the Bar Graph in Measure/ Timer/Counter Mode.
12	264	8-bit UInteger	0 = Disabled 1 = Enabled	0		Measure/Timer/ Counter Mode Display Minimal Bar Graph	Enable or disable the minimal display of the bar graph in Measure/ Timer/Counter Mode.
13	272	8-bit UInteger	0..3 = Decimal Places (0-3)	1		Measure/Timer/ Counter Mode Decimal Places	The number of decimal places to display in Measure/Timer/ Counter Mode.
14	280	8-bit UInteger	0 = Disabled 1 = Enabled	0		Measure/Timer/ Counter Mode Display as Time	Enable or disable the display of the Measure/Timer/ Counter Mode Value in time format (HH:MM:SS).

Index 85: Measure Base Configuration

Description: Settings Measure/Timer/Counter Base

Data Type: 288-bit Record (subindex access not supported)

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	8-bit UInteger	0 = Disabled 1 = Enabled	0		Display Override	Overrides the display string when in this threshold.
2	8	32-octet String UTF-8		"Base"		Override String	The string that displays when Override is enabled and operating in the current threshold/base configuration.
3	264	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Flash 6 = Intensity Sweep 7 = Two Color Sweep	0		Animation	The Animation type.
4	268	4-bit UInteger	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom 1 15 = Custom 2	0		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
5	272	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom	0		Color 1 Intensity	The intensity of Color 1. Custom Intensity is defined in Parameter Data.

Continued on page 18

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 17

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
6	275	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Speed	The speed of the Animation.
7	277	3-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS 4 = Random	0		Pulse Pattern	The pattern of the Animation.
8	280	4-bit UInteger	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom 1 15 = Custom 2	0		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
9	284	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom	0		Color 2 Intensity	The intensity of Color 2. Custom Intensity is defined in Parameter Data.

Continued on page 19

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 18

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
10	288	8-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Staccato 6 = Siren 7 = Continuous 1 8 = Continuous 2 10 = Jingle 11 = Melody 1 12 = Melody 2 13 = Melody 3 14 = Custom	0		Audible Type	The audible tone played when active.

Index 86: Measure Threshold 1 Configuration

Description: Settings for Threshold 1

Data Type: 320-bit Record (subindex access not supported)

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	8-bit UInteger	0 = Disabled 1 = Enabled	1		Threshold Enable	Enables the threshold.
2	8	8-bit UInteger	0..100 = Threshold (%)	25		Threshold Value	The value of the threshold, defined as a percentage.
3	16	8-bit UInteger	0 = Less Than 1 = Greater Than	0		Threshold Comparison	Sets the comparison type of the threshold.
4	24	8-bit UInteger	0 = Disabled 1 = Enabled	0		Threshold Override	When enabled, all segments display an override animation.
5	32	8-bit UInteger	0 = Disabled 1 = Enabled	0		Display Override	Overrides the display string when in this threshold.
6	40	32-octet String UTF-8		"Thresh 1"		Override String	The string that displays when Override is enabled and operating in the current threshold/base configuration.

Continued on page 20

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 19

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
7	296	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Flash 6 = Intensity Sweep 7 = Two Color Sweep	1		Animation	The Animation type.
8	300	4-bit UInteger	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom 1 15 = Custom 2	0		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
9	304	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom	0		Color 1 Intensity	The intensity of Color 1. Custom Intensity is defined in Parameter Data.
10	307	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Speed	The speed of the Animation.
11	309	3-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS 4 = Random	0		Pulse Pattern	The pattern of the Animation.

Continued on page 21

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 20

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
12	312	4-bit UInteger	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom 1 15 = Custom 2	0		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
13	316	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom	0		Color 2 Intensity	The intensity of Color 2. Custom Intensity is defined in Parameter Data.
14	320	8-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Staccato 6 = Siren 7 = Continuous 1 8 = Continuous 2 10 = Jingle 11 = Melody 1 12 = Melody 2 13 = Melody 3 14 = Custom	0		Audible Type	The audible tone played when active.

Index 87: Measure Threshold 2 Configuration

Description: Settings for Threshold 2

Data Type: 320-bit Record (subindex access not supported)

Access Rights: RW

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	8-bit UInteger	0 = Disabled 1 = Enabled	1		Threshold Enable	Enables the threshold.
2	8	8-bit UInteger	0..100 = Threshold (%)	50		Threshold Value	The value of the threshold, defined as a percentage.
3	16	8-bit UInteger	0 = Less Than 1 = Greater Than	0		Threshold Comparison	Sets the comparison type of the threshold.
4	24	8-bit UInteger	0 = Disabled 1 = Enabled	0		Threshold Override	When enabled, all segments display an override animation.
5	32	8-bit UInteger	0 = Disabled 1 = Enabled	0		Display Override	Overrides the display string when in this threshold.
6	40	32-octet String UTF-8		"Thresh 2"		Override String	The string that displays when Override is enabled and operating in the current threshold/base configuration.
7	296	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Flash 6 = Intensity Sweep 7 = Two Color Sweep	1		Animation	The Animation type.
8	300	4-bit UInteger	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom 1 15 = Custom 2	2		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.

Continued on page 22

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 22

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
9	304	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom	0		Color 1 Intensity	The intensity of Color 1. Custom Intensity is defined in Parameter Data.
10	307	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Speed	The speed of the Animation.
11	309	3-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS 4 = Random	0		Pulse Pattern	The pattern of the Animation.
12	312	4-bit UInteger	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom 1 15 = Custom 2	0		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
13	316	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom	0		Color 2 Intensity	The intensity of Color 2. Custom Intensity is defined in Parameter Data.

Continued on page 24

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 23

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
14	320	8-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Staccato 6 = Siren 7 = Continuous 1 8 = Continuous 2 10 = Jingle 11 = Melody 1 12 = Melody 2 13 = Melody 3 14 = Custom	0		Audible Type	The audible tone played when active.

Index 88: Measure Threshold 3 Configuration

Description: Settings for Threshold 3

Data Type: 320-bit Record (subindex access not supported)

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	8-bit UInteger	0 = Disabled 1 = Enabled	1		Threshold Enable	Enables the threshold.
2	8	8-bit UInteger	0..100 = Threshold (%)	75		Threshold Value	The value of the threshold, defined as a percentage.
3	16	8-bit UInteger	0 = Less Than 1 = Greater Than	0		Threshold Comparison	Sets the comparison type of the threshold.
4	24	8-bit UInteger	0 = Disabled 1 = Enabled	0		Threshold Override	When enabled, all segments display an override animation.
5	32	8-bit UInteger	0 = Disabled 1 = Enabled	0		Display Override	Overrides the display string when in this threshold.
6	40	32-octet String UTF-8		"Thresh 3"		Override String	The string that displays when Override is enabled and operating in the current threshold/base configuration.

Continued on page 25

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 24

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
7	296	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Flash 6 = Intensity Sweep 7 = Two Color Sweep	1		Animation	The Animation type.
8	300	4-bit UInteger	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom 1 15 = Custom 2	1		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
9	304	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom	0		Color 1 Intensity	The intensity of Color 1. Custom Intensity is defined in Parameter Data.
10	307	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Speed	The speed of the Animation.
11	309	3-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS 4 = Random	0		Pulse Pattern	The pattern of the Animation.

Continued on page 26

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 25

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
12	312	4-bit UInteger	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom 1 15 = Custom 2	0		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
13	316	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom	0		Color 2 Intensity	The intensity of Color 2. Custom Intensity is defined in Parameter Data.
14	320	8-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Staccato 6 = Siren 7 = Continuous 1 8 = Continuous 2 10 = Jingle 11 = Melody 1 12 = Melody 2 13 = Melody 3 14 = Custom	0		Audible Type	The audible tone played when active.

Index 89: Measure Threshold 4 Configuration

Description: Settings for Threshold 4

Data Type: 320-bit Record (subindex access not supported)

Access Rights: RW

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	8-bit UInteger	0 = Disabled 1 = Enabled	1		Threshold Enable	Enables the threshold.
2	8	8-bit UInteger	0..100 = Threshold (%)	100		Threshold Value	The value of the threshold, defined as a percentage.
3	16	8-bit UInteger	0 = Less Than 1 = Greater Than	0		Threshold Comparison	Sets the comparison type of the threshold.
4	24	8-bit UInteger	0 = Disabled 1 = Enabled	0		Threshold Override	When enabled, all segments display an override animation.
5	32	8-bit UInteger	0 = Disabled 1 = Enabled	0		Display Override	Overrides the display string when in this threshold.
6	40	32-octet String UTF-8		"Thresh 4"		Override String	The string that displays when Override is enabled and operating in the current threshold/base configuration.
7	296	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Flash 6 = Intensity Sweep 7 = Two Color Sweep	6		Animation	The Animation type.
8	300	4-bit UInteger	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom 1 15 = Custom 2	2		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.

Continued on page 27

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 27

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
9	304	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom	0		Color 1 Intensity	The intensity of Color 1. Custom Intensity is defined in Parameter Data.
10	307	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Speed	The speed of the Animation.
11	309	3-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS 4 = Random	0		Pulse Pattern	The pattern of the Animation.
12	312	4-bit UInteger	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom 1 15 = Custom 2	0		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
13	316	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom	0		Color 2 Intensity	The intensity of Color 2. Custom Intensity is defined in Parameter Data.

Continued on page 29

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 28

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
14	320	8-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Staccato 6 = Siren 7 = Continuous 1 8 = Continuous 2 10 = Jingle 11 = Melody 1 12 = Melody 2 13 = Melody 3 14 = Custom	0		Audible Type	The audible tone played when active.

Index 90: Custom 1

Description: Custom 1

Data Type: 24-bit Record (subindex access not supported)

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	8-bit UInteger		255		Red	The red value for Custom Color 1.
2	8	8-bit UInteger		255		Green	The green value for Custom Color 1.
3	16	8-bit UInteger		255		Blue	The blue value for Custom Color 1.

Index 91: Custom 2

Description: Custom 2

Data Type: 24-bit Record (subindex access not supported)

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	8-bit UInteger		255		Red	The red value for Custom Color 2.
2	8	8-bit UInteger		255		Green	The green value for Custom Color 2.
3	16	8-bit UInteger		255		Blue	The blue value for Custom Color 2.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Index 92: Message Mode Settings

Description: Message Mode Settings

Data Type: 1792-bit Record

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	256	32-octet String UTF-8		"Reset"		Message 1	Message Mode Message 1
2	512	32-octet String UTF-8		"Fault"		Message 2	Message Mode Message 2
3	768	32-octet String UTF-8		"Stop"		Message 3	Message Mode Message 3
4	1024	32-octet String UTF-8		"Start"		Message 4	Message Mode Message 4
5	1280	32-octet String UTF-8		"Changeover"		Message 5	Message Mode Message 5
6	1536	32-octet String UTF-8		"Open"		Message 6	Message Mode Message 6

Index 93: Message Mode Settings, Continued

Description: Message Mode Settings, Continued

Data Type: 1792-bit Record

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	32-octet String UTF-8		"Welcome"		Message 7	Message Mode Message 7
2	256	32-octet String UTF-8		"Quality"		Message 8	Message Mode Message 8
3	512	32-octet String UTF-8		"Warning"		Message 9	Message Mode Message 9
4	768	32-octet String UTF-8		"Alarm"		Message 10	Message Mode Message 10
5	1024	32-octet String UTF-8		"Break"		Message 11	Message Mode Message 11
6	1280	32-octet String UTF-8		"Run"		Message 12	Message Mode Message 12
7	1536	32-octet String UTF-8		"Maintenance"		Message 13	Message Mode Message 13

Index 94: Custom Audible Settings

Description: Select audible type and frequencies to make a custom tone.

Data Type: 8-bit Record (subindex access not supported)

Access Rights: RW

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	2-bit UInteger	0 = Beep 1 = Sweep 2 = Tone	0		Custom Type	The type of tone to be played when a custom audible type is selected.
2	2	2-bit UInteger	0 = Up 1 = Down 2 = Up Down 3 = Down Up	0		Custom Sweep Type	The type of sweep performed when the sweep audible type is selected.
3	4	2-bit UInteger	0 = Off 1 = Low 2 = Medium 3 = High	0		Custom Frequency 1	Custom Frequency 1
4	6	2-bit UInteger	0 = Off 1 = Low 2 = Medium 3 = High	0		Custom Frequency 2	Custom Frequency 2

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Chapter 4 Specifications

Supply Voltage

18 V DC to 30 V DC

Use only with a suitable Class 2 power supply (UL) or SELV power supply (CE)

See the electrical characteristics on the product label.

Supply Current

350 mA max. at 18 V DC

260 mA max. at 24 V DC

210 mA max. at 30 V DC

Connections

150 mm (6 in) PVC-jacketed cable with a 4-pin M12 male quick-disconnect connector

Models with a quick-disconnect connector require a mating cordset

Do not spray cable with high-pressure sprayer or cable damage will result

Operating Temperature

–20 °C to +50 °C (–4 °F to +122 °F)

Storage Temperature

–40 °C to +70 °C (–40 °F to +158 °F)

Environmental Rating

Rated IP65

Suitable for damp locations per UL 2108

Vibration and Mechanical Shock

Meets IEC 60068-2-6 requirements (Vibration: 10 Hz to 55 Hz, 1.0 mm amplitude, 5 minutes sweep, 30 minutes dwell)

Meets IEC 60068-2-27 requirements (Shock: 15G 11 ms duration, half sine wave)

Construction

Black polycarbonate housing and end caps

Internal silicone-encapsulated LEDs

Smoky polycarbonate window

Character Limit

Run Mode: 29 characters

All other Modes: 32 characters

Audible Characteristics

Typical sound intensity at 1 m: 77 dB

Certifications

Banner Engineering BV
Park Lane, Culliganlaan 2F bus 3
1831 Diegem, BELGIUM

Required Overcurrent Protection

WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.

Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.

Supply wiring leads < 24 AWG shall not be spliced.

For additional product support, go to www.bannerengineering.com.

Supply Wiring (AWG)	Required Overcurrent Protection (A)	Supply Wiring (AWG)	Required Overcurrent Protection (A)
20	5.0	26	1.0
22	3.0	28	0.8
24	2.0	30	0.5

Mounting

M5 and 1/4-20 compatible end caps (not included)

Clip brackets for mounting are available

FCC Part 15 Class B for Unintentional Radiators

(Part 15.105(b)) This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

(Part 15.21) Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Industry Canada ICES-003(B)

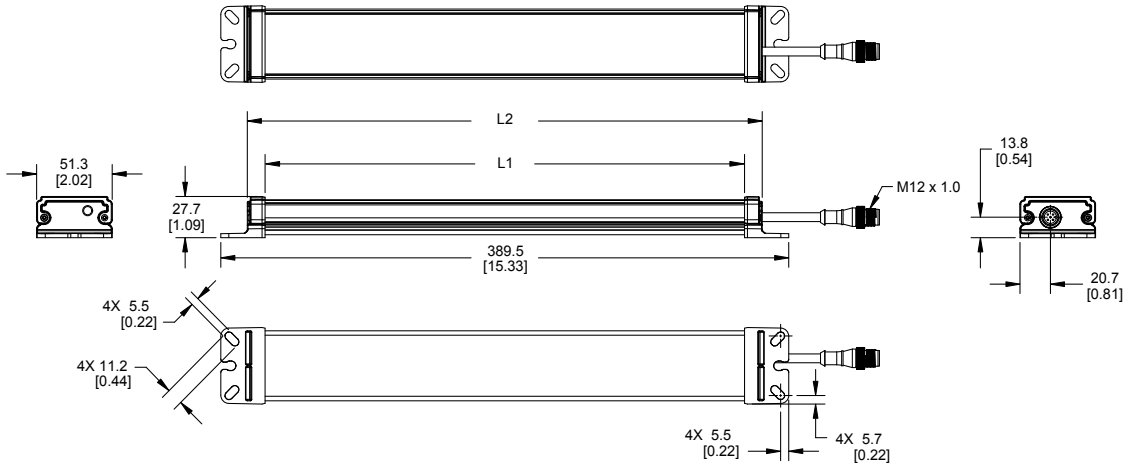
This device complies with CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à la norme NMB-3(B). Le fonctionnement est soumis aux deux conditions suivantes : (1) ce dispositif ne peut pas occasionner d'interférences, et (2) il doit tolérer toute interférence, y compris celles susceptibles de provoquer un fonctionnement non souhaité du dispositif.

© Banner Engineering Corp. All rights reserved.

Dimensions

All measurements are listed in millimeters [inches], unless noted otherwise. The measurements provided are subject to change.

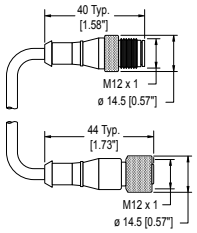
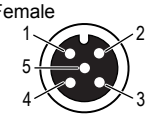


Models	L1	L2
SD50..300..	329.5 mm (12.97 in)	353.5 mm (13.92 in)

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

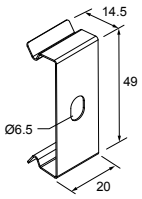
Chapter 5 Accessories

Cordsets

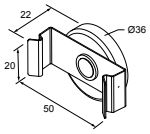
4-Pin A-Code Double-Ended M12 Female to M12 Male Cordsets (datasheet p/n 236186)				
Model	**Length**	**Dimensions (mm)**	**Pinouts**	
BC-M12F4-M12M4-22-1	1 m (3.28 ft)		Female  Male 	1 = Brown 2 = White 3 = Blue 4 = Black 5 = Unused c UL us LISTED
BC-M12F4-M12M4-22-2	2 m (6.56 ft)			
BC-M12F4-M12M4-22-3	3 m (9.84 ft)			
BC-M12F4-M12M4-22-4	4 m (13.12 ft)			
BC-M12F4-M12M4-22-5	5 m (16.4 ft)			
BC-M12F4-M12M4-22-10	10 m (30.81 ft)			
BC-M12F4-M12M4-22-15	15 m (49.2 ft)			

Mounting Brackets

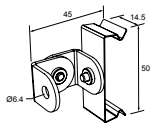
LMBSD50
- Metal mounting bracket kit
- Hardware included
- CAD Files: DXF, PDF, IGS, STP



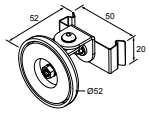
LMBSD50MAG
- Magnetic mounting bracket kit
- Up to 7.26 kg (16 lb) pull
- Hardware included
- CAD Files: DXF, PDF, IGS, STP



LMBSD50-180S
- Metal mounting bracket kit with 180-degree rotation
- Stainless steel
- Hardware included
- CAD Files: DXF, PDF, IGS, STP



LMBSD50-180SMAG
- Magnetic mounting bracket kit with 180-degree rotation
- Stainless steel
- Up to 7.26 kg (16 lb) pull
- Hardware included
- CAD Files: DXF, PDF, IGS, STP



© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Chapter 6 Product Support and Maintenance

Encoding Table and Unicode Characters

Unicode Code Point	Character	Name
U+0020		SPACE
U+0021	!	EXCLAMATION MARK
U+0022	"	QUOTATION MARK
U+0023	#	NUMBER SIGN
U+0024	$	DOLLAR SIGN
U+0025	%	PERCENT SIGN
U+0026	&	AMPERSAND
U+0027	'	APOSTROPHE
U+0028	(	LEFT PARENTHESIS
U+0029	)	RIGHT PARENTHESIS
U+002A	*	ASTERISK
U+002B	+	PLUS SIGN
U+002C	,	COMMA
U+002D	-	HYPHEN-MINUS
U+002E	.	FULL STOP
U+002F	/	SOLIDUS
U+0030	0	DIGIT ZERO
U+0031	1	DIGIT ONE
U+0032	2	DIGIT TWO
U+0033	3	DIGIT THREE
U+0034	4	DIGIT FOUR
U+0035	5	DIGIT FIVE
U+0036	6	DIGIT SIX
U+0037	7	DIGIT SEVEN
U+0038	8	DIGIT EIGHT
U+0039	9	DIGIT NINE
U+003A	:	COLON
U+003B	;	SEMICOLON
U+003C	<	LESS-THAN SIGN
U+003D	=	EQUALS SIGN
U+003E	>	GREATER-THAN SIGN
U+003F	?	QUESTION MARK
U+0040	@	COMMERCIAL AT
U+0041	A	LATIN CAPITAL LETTER A
U+0042	B	LATIN CAPITAL LETTER B
U+0043	C	LATIN CAPITAL LETTER C
U+0044	D	LATIN CAPITAL LETTER D

Continued on page 36

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 35

Unicode Code Point	Character	Name
U+0045	E	LATIN CAPITAL LETTER E
U+0046	F	LATIN CAPITAL LETTER F
U+0047	G	LATIN CAPITAL LETTER G
U+0048	H	LATIN CAPITAL LETTER H
U+0049	I	LATIN CAPITAL LETTER I
U+004A	J	LATIN CAPITAL LETTER J
U+004B	K	LATIN CAPITAL LETTER K
U+004C	L	LATIN CAPITAL LETTER L
U+004D	M	LATIN CAPITAL LETTER M
U+004E	N	LATIN CAPITAL LETTER N
U+004F	O	LATIN CAPITAL LETTER O
U+0050	P	LATIN CAPITAL LETTER P
U+0051	Q	LATIN CAPITAL LETTER Q
U+0052	R	LATIN CAPITAL LETTER R
U+0053	S	LATIN CAPITAL LETTER S
U+0054	T	LATIN CAPITAL LETTER T
U+0055	U	LATIN CAPITAL LETTER U
U+0056	V	LATIN CAPITAL LETTER V
U+0057	W	LATIN CAPITAL LETTER W
U+0058	X	LATIN CAPITAL LETTER X
U+0059	Y	LATIN CAPITAL LETTER Y
U+005A	Z	LATIN CAPITAL LETTER Z
U+005B	[	LEFT SQUARE BRACKET
U+005C	\	REVERSE SOLIDUS
U+005D	]	RIGHT SQUARE BRACKET
U+005E	^	CIRCUMFLEX ACCENT
U+005F	_	LOW LINE
U+0060	`	GRAVE ACCENT
U+0061	a	LATIN SMALL LETTER A
U+0062	b	LATIN SMALL LETTER B
U+0063	c	LATIN SMALL LETTER C
U+0064	d	LATIN SMALL LETTER D
U+0065	e	LATIN SMALL LETTER E
U+0066	f	LATIN SMALL LETTER F
U+0067	g	LATIN SMALL LETTER G
U+0068	h	LATIN SMALL LETTER H
U+0069	i	LATIN SMALL LETTER I
U+006A	j	LATIN SMALL LETTER J
U+006B	k	LATIN SMALL LETTER K
U+006C	l	LATIN SMALL LETTER L
U+006D	m	LATIN SMALL LETTER M
U+006E	n	LATIN SMALL LETTER N

Continued on page 37

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 36

Unicode Code Point	Character	Name
U+006F	o	LATIN SMALL LETTER O
U+0070	p	LATIN SMALL LETTER P
U+0071	q	LATIN SMALL LETTER Q
U+0072	r	LATIN SMALL LETTER R
U+0073	s	LATIN SMALL LETTER S
U+0074	t	LATIN SMALL LETTER T
U+0075	u	LATIN SMALL LETTER U
U+0076	v	LATIN SMALL LETTER V
U+0077	w	LATIN SMALL LETTER W
U+0078	x	LATIN SMALL LETTER X
U+0079	y	LATIN SMALL LETTER Y
U+007A	z	LATIN SMALL LETTER Z
U+007B	{	LEFT CURLY BRACKET
U+007C	|	VERTICAL LINE
U+007D	}	RIGHT CURLY BRACKET
U+007E	~	TILDE
U+00A0		NO-BREAK SPACE
U+00A1	¡	INVERTED EXCLAMATION MARK
U+00A2	¢	CENT SIGN
U+00A3	£	POUND SIGN
U+00A4	¤	CURRENCY SIGN
U+00A5	¥	YEN SIGN
U+00A6	¦	BROKEN BAR
U+00A7	§	SECTION SIGN
U+00A8	¨	DIAERESIS
U+00A9	©	COPYRIGHT SIGN
U+00AA	ª	FEMININE ORDINAL INDICATOR
U+00AB	«	LEFT-POINTING DOUBLE ANGLE QUOTATION MARK
U+00AC	¬	NOT SIGN
U+00AD		SOFT HYPHEN
U+00AE	®	REGISTERED SIGN
U+00AF	¯	MACRON
U+00B0	°	DEGREE SIGN
U+00B1	±	PLUS-MINUS SIGN
U+00B2	²	SUPERSCRIPT TWO
U+00B3	³	SUPERSCRIPT THREE
U+00B4	´	ACUTE ACCENT
U+00B5	µ	MICRO SIGN
U+00B6	¶	PILCROW SIGN
U+00B7	·	MIDDLE DOT
U+00B8	¸	CEDILLA
U+00B9	¹	SUPERSCRIPT ONE

Continued on page 38

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 37

Unicode Code Point	Character	Name
U+00BA	º	MASCULINE ORDINAL INDICATOR
U+00BB	»	RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK
U+00BC	¼	VULGAR FRACTION ONE QUARTER
U+00BD	½	VULGAR FRACTION ONE HALF
U+00BE	¾	VULGAR FRACTION THREE QUARTERS
U+00BF	¿	INVERTED QUESTION MARK
U+00C0	À	LATIN CAPITAL LETTER A WITH GRAVE
U+00C1	Á	LATIN CAPITAL LETTER A WITH ACUTE
U+00C2	Â	LATIN CAPITAL LETTER A WITH CIRCUMFLEX
U+00C3	Ã	LATIN CAPITAL LETTER A WITH TILDE
U+00C4	Ä	LATIN CAPITAL LETTER A WITH DIAERESIS
U+00C5	Å	LATIN CAPITAL LETTER A WITH RING ABOVE
U+00C6	Æ	LATIN CAPITAL LETTER AE
U+00C7	Ç	LATIN CAPITAL LETTER C WITH CEDILLA
U+00C8	È	LATIN CAPITAL LETTER E WITH GRAVE
U+00C9	É	LATIN CAPITAL LETTER E WITH ACUTE
U+00CA	Ê	LATIN CAPITAL LETTER E WITH CIRCUMFLEX
U+00CB	Ë	LATIN CAPITAL LETTER E WITH DIAERESIS
U+00CC	Ì	LATIN CAPITAL LETTER I WITH GRAVE
U+00CD	Í	LATIN CAPITAL LETTER I WITH ACUTE
U+00CE	Î	LATIN CAPITAL LETTER I WITH CIRCUMFLEX
U+00CF	Ï	LATIN CAPITAL LETTER I WITH DIAERESIS
U+00D0	Ð	LATIN CAPITAL LETTER ETH
U+00D1	Ñ	LATIN CAPITAL LETTER N WITH TILDE
U+00D2	Ò	LATIN CAPITAL LETTER O WITH GRAVE
U+00D3	Ó	LATIN CAPITAL LETTER O WITH ACUTE
U+00D4	Ô	LATIN CAPITAL LETTER O WITH CIRCUMFLEX
U+00D5	Õ	LATIN CAPITAL LETTER O WITH TILDE
U+00D6	Ö	LATIN CAPITAL LETTER O WITH DIAERESIS
U+00D7	×	MULTIPLICATION SIGN
U+00D8	Ø	LATIN CAPITAL LETTER O WITH STROKE
U+00D9	Ù	LATIN CAPITAL LETTER U WITH GRAVE
U+00DA	Ú	LATIN CAPITAL LETTER U WITH ACUTE
U+00DB	Û	LATIN CAPITAL LETTER U WITH CIRCUMFLEX
U+00DC	Ü	LATIN CAPITAL LETTER U WITH DIAERESIS
U+00DD	Ý	LATIN CAPITAL LETTER Y WITH ACUTE
U+00DE	Þ	LATIN CAPITAL LETTER THORN
U+00DF	ß	LATIN SMALL LETTER SHARP S
U+00E0	à	LATIN SMALL LETTER A WITH GRAVE
U+00E1	á	LATIN SMALL LETTER A WITH ACUTE
U+00E2	â	LATIN SMALL LETTER A WITH CIRCUMFLEX
U+00E3	ã	LATIN SMALL LETTER A WITH TILDE

Continued on page 39

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Continued from page 38

Unicode Code Point	Character	Name
U+00E4	ä	LATIN SMALL LETTER A WITH DIAERESIS
U+00E5	å	LATIN SMALL LETTER A WITH RING ABOVE
U+00E6	æ	LATIN SMALL LETTER AE
U+00E7	ç	LATIN SMALL LETTER C WITH CEDILLA
U+00E8	è	LATIN SMALL LETTER E WITH GRAVE
U+00E9	é	LATIN SMALL LETTER E WITH ACUTE
U+00EA	ê	LATIN SMALL LETTER E WITH CIRCUMFLEX
U+00EB	ë	LATIN SMALL LETTER E WITH DIAERESIS
U+00EC	ì	LATIN SMALL LETTER I WITH GRAVE
U+00ED	í	LATIN SMALL LETTER I WITH ACUTE
U+00EE	î	LATIN SMALL LETTER I WITH CIRCUMFLEX
U+00EF	ï	LATIN SMALL LETTER I WITH DIAERESIS
U+00F0	ð	LATIN SMALL LETTER ETH
U+00F1	ñ	LATIN SMALL LETTER N WITH TILDE
U+00F2	ò	LATIN SMALL LETTER O WITH GRAVE
U+00F3	ó	LATIN SMALL LETTER O WITH ACUTE
U+00F4	ô	LATIN SMALL LETTER O WITH CIRCUMFLEX
U+00F5	õ	LATIN SMALL LETTER O WITH TILDE
U+00F6	ö	LATIN SMALL LETTER O WITH DIAERESIS
U+00F7	÷	DIVISION SIGN
U+00F8	ø	LATIN SMALL LETTER O WITH STROKE
U+00F9	ù	LATIN SMALL LETTER U WITH GRAVE
U+00FA	ú	LATIN SMALL LETTER U WITH ACUTE
U+00FB	û	LATIN SMALL LETTER U WITH CIRCUMFLEX
U+00FC	ü	LATIN SMALL LETTER U WITH DIAERESIS
U+00FD	ý	LATIN SMALL LETTER Y WITH ACUTE
U+00FE	þ	LATIN SMALL LETTER THORN
U+00FF	ÿ	LATIN SMALL LETTER Y WITH DIAERESIS

Clean with Mild Detergent and Warm Water

Wipe down the device with a soft cloth dampened with a mild detergent and warm water solution. Do not use any other chemicals for cleaning.

Repairs and Translations (No Field-Replaceable Parts)

English

Contact Banner Engineering for troubleshooting of this device. **Do not attempt any repairs to this Banner device; it contains no field-replaceable parts or components.** If the device, device part, or device component is determined to be defective by a Banner Applications Engineer, they will advise you of Banner's RMA (Return Merchandise Authorization) procedure.

```
IMPORTANT: If instructed to return the device, pack it with care. Damage that occurs in return
shipping is not covered by warranty.
```

Obtain assistance with product repairs by contacting your local Banner Engineering Corp distributor or by calling Banner directly at (763) 544-3164. Access literature translated into your native language on the Banner website at www.bannerengineering.com or contact Banner directly at (763) 544-3164.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Deutsch

Wenden Sie sich zur Fehlerbehebung dieses Geräts an Banner Engineering. **Versuchen Sie nicht, Reparaturen an diesem Banner-Gerät vorzunehmen. Das Gerät enthält keine am Einsatzort auszuwechselnden Teile oder Komponenten.** Wenn ein Banner-Anwendungstechniker zu dem Schluss kommt, dass dieses Gerät, ein Teil oder eine Komponente davon defekt ist, erhalten Sie von dem Techniker Erläuterungen zu Banners RMA-Verfahren (Return Merchandise Authorization) für die Warenrückgabe.

WICHTIG: Wenn Sie der Techniker anweist, das Gerät zurückzusenden, verpacken Sie es bitte sorgfältig. Transportschäden bei der Rücksendung werden von der Garantie nicht abgedeckt.

Unterstützung bei Produktreparaturen erhalten Sie von Ihrem örtlichen Banner Engineering Corp Händler oder direkt von Banner unter Tel. (763) 544-3164. Die in Ihre Muttersprache übersetzte Literatur finden Sie auf der Banner-Website unter www.bannerengineering.com oder kontaktieren Sie Banner direkt unter Tel. (763) 544-3164.

Français

Pour plus d'informations sur le dépannage du produit, contactez Banner Engineering. **Ne tentez pas de réparer ce dispositif Banner. Il ne contient aucun composant ou pièce qui puisse être remplacé sur place.** Si un ingénieur de Banner conclut que le dispositif ou l'une de ses pièces ou composants est défectueux, il vous informera de la procédure à suivre pour le retour des produits (RMA).

Important : Si vous devez retourner le dispositif, emballez-le avec soin. Les dégâts occasionnés pendant le transport de retour ne sont pas couverts par la garantie.

Pour vous aider lors de la réparation de produits, contactez votre distributeur Banner local our appelez directement Banner au (763) 544-3164. La documentation traduite dans votre langue est disponible sur le site internet de Banner www.bannerengineering.com ou contactez directement Banner au (763) 544-3164.

Italiano

Per le procedure di individuazione e riparazione dei guasti di questo dispositivo, contattare Banner Engineering. **Non tentare di riparare questo dispositivo Banner, in quanto non contiene parti o componenti sostituibili dall'utente.** Se il dispositivo, una parte del dispositivo o un componente del dispositivo viene riscontrato difettoso da un tecnico Banner, il nostro personale vi comunicherà la procedura da seguire per ottenere l'autorizzazione al reso.

Importante: Se si ricevono istruzioni di rispedire il dispositivo al produttore, imballarlo con cura. I danni dovuti al trasporto non sono coperti dalla garanzia.

Per assistenza nelle riparazioni dei prodotti, contattare il distributore locale Banner Engineering Corp o contattare direttamente Banner al numero (763) 544-3164. È possibile accedere alla documentazione tradotta nella propria lingua madre sul sito Web Banner all'indirizzo www.bannerengineering.com o contattare direttamente Banner al numero (763) 544-3164.

Español

Comuníquese con Banner Engineering para solucionar de problemas de este dispositivo. **No intente ninguna reparación a este dispositivo de Banner, contiene piezas o componente que no se pueden cambiar en terreno.** Si algún ingeniero de aplicaciones de Banner determina que el dispositivo, alguna de las piezas o alguno de los componentes del dispositivo está defectuoso, le informará el procedimiento de autorización de devolución de mercancía (RMA, por sus siglas en inglés) de Banner.

Importante: Si se le solicita devolver el dispositivo, empáquelo con cuidado. Puede haber daños durante el envío de devolución que no estén cubiertos por la garantía.

Para reparaciones de productos, por favor contacte a su distribuidor local de Banner Engineering o llame a Banner directamente al 00 1 (763) 544-3164. Vea la literatura traducida en su idioma en el sitio web Banner en www.bannerengineering.com o comuníquese con Banner directamente al 00 1 (763) 544-3164.

中国人

如需对本装置进行故障排查，请联系邦纳。**请勿尝试自行维修该邦纳装置；本装置不包含任何可在现场更换的部件或组件。** 若经邦纳应用工程师确认设备、设备部件或组件存在缺陷，他们将告知您邦纳退货授权 (RMA) 流程。

重要注意事项： 如被要求退回装置，请妥善包装后寄回。退货运输过程中发生的损坏不在保修范围内。

请联系当地的 Banner Engineering Corp 经销商或直接致电 Banner +1 (763) 544-3164，以获得产品维修帮助。请访问邦纳网站 www.bannerengineering.com 或直接拨打 +1 (763) 544-3164 联系邦纳，获取翻译成您母语的资料。

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

한국인

이 장치의 문제를 해결하려면 Banner Engineering에 문의하십시오. **이 Banner 장치에는 현장에서 교체할 수 있는 부품 또는 구성품이 없으므로 수리를 시도하지 마십시오.** Banner 애플리케이션 엔지니어가 장치, 장치 부품 또는 장치 구성품에 결함이 있는 것으로 판정하면, Banner의 RMA(제품 반송 승인)절차에 대해 안내해 드립니다.

중요: 제품을 반송하도록 안내 받으셨다면 잘 포장해주십시오. 반송 도중에 발생한 손상은 보증 서비스가 적용되지 않습니다.

제품 수리에 대한 지원은 지역 Banner Engineering Corp 대리점에 문의하거나 Banner에 직접 (763) 544-3164로 문의하실 수 있습니다. 사용자의 모국어로 번역된 자료는 Banner 웹사이트 www.bannerengineering.com에서 액세스하거나 Banner에 직접 (763) 544-3164로 문의하실 수 있습니다.

日本語

この装置のトラブルシューティングについては、バナーエンジニアリングにお問い合わせください。**このバナー装置には、現場では交換できない部品またはコンポーネントが含まれているため、修理を試みてはいけません。** バナーのアプリケーションエンジニアが装置、装置の部品、または装置のコンポーネントに欠陥があると判断した場合、バナーのRMA（返品承認）手続きについてお知らせします。

重要 ： 返品を指示された場合は、装置を丁寧に梱包してください。返品時に発生した破損は保証の対象外となります。

製品の修理については、最寄りのBanner Engineering Corp代理店にお問い合わせいただくか、米国+1 (763) 544-3164まで直接お電話でお問い合わせください。バナーのウェブサイト（www.bannerengineering.com）でお客様の言語に翻訳された資料にアクセスするか、米国+1 (763) 544-3164まで直接お電話でお問い合わせください。

čeština

Pro řešení problémů se zařízením kontaktujte společnost Banner Engineering. **Neprovádějte žádné opravy zařízení Banner. Neobsahují žádné komponenty nebo části, které by byly vyměnitelné.** Pokud je zařízení, jeho část nebo díl označen technikem společnosti Banner jako poškozený, bude Vám doporučeno vyplnit reklamační RMA protokol.

Důležité: Pokud byl vydán požadavek na vrácení zařízení, pečlivě ho zabalte. Poškození vzniklé při dopravě není považováno za záruční opravu.

Pokud produkt potřebuje opravu, vyžádejte si pomoc od místního distributora společnosti Banner Engineering Corp nebo přímo na telefonním čísle (763) 544-3164. Dokumentaci přeloženou do vašeho jazyka si vyhledejte na webových stránkách společnosti Banner na adrese www.bannerengineering.com nebo se obraťte přímo na společnost Banner na telefonním čísle (763) 544-3164.

Polski

W celu rozwiązania problemów z urządzeniem należy skontaktować się z działem technicznym firmy Banner Engineering. **Pod żadnym pozorem nie próbuj naprawiać tego urządzenia firmy Banner; nie zawiera ono części ani elementów, które można wymieniać samodzielnie.** Jeśli urządzenie, jego część lub element zostaną uznane za wadliwe przez inżyniera technicznego Banner, poinformuje on użytkownika o firmowej procedurze zwrotu towaru (RMA) firmy Banner.

Ważne: Jeśli urządzenie ma zostać zwrócone, należy je starannie zapakować. Uszkodzenia powstałe podczas odsyłki nie są objęte gwarancją.

Aby uzyskać pomoc w zakresie naprawy produktu, należy skontaktować się z lokalnym dystrybutorem Banner Engineering Corp lub zadzwonić bezpośrednio do firmy Banner pod numer (763) 544-3164. Dostęp do literatury przetłumaczonej na swój język ojczysty można uzyskać na stronie internetowej firmy Banner pod adresem www.bannerengineering.com lub kontaktując się bezpośrednio z firmą Banner pod numerem (763) 544-3164.

Português

Entre em contato com a Engenharia da Banner para a solução de problemas deste dispositivo. **Não tente fazer nenhum reparo neste dispositivo Banner; ele não contém peças ou componentes substituíveis em campo.** Se um técnico de aplicações da Banner determinar que o dispositivo, peça ou componente do dispositivo está com defeito, ele o informará sobre o procedimento de RMA (Autorização de Devolução de Mercadoria) da Banner.

Importante: Se for instruído a devolver o dispositivo, embale-o com cuidado. Os danos ocorridos no transporte de devolução não são cobertos pela garantia.

Obtenha assistência para reparos do produto entrando em contato com o distribuidor local da Banner Engineering Corp ou ligando diretamente para a Banner no telefone (763) 544-3164. Acesse a literatura traduzida para seu idioma nativo no site da Banner em www.bannerengineering.com ou entre em contato diretamente com a Banner pelo telefone (763) 544-3164.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Türkçe

Bu cihazda sorun giderme işlemleri için Banner Engineering ile iletişime geçin. **Bu Banner cihazını onarmaya çalışmayın; cihaz sahada değiştirilebilir parça veya bileşen içermez.** Bir Banner Uygulama Mühendisi tarafından cihazın, cihazın bir parçasının veya bir cihaz bileşeninin kusurlu olduğu tespit edilirse, Banner RMA (İade Mal Yetkilendirme) prosedürü hakkında bilgilendirilirsiniz.

```
ÖNEMLİ: İade etmeniz istenirse, cihazı dikkatli bir şekilde paketleyin. İade nakliyesinde
meydana gelecek hasarlar garanti kapsamında değildir.
```

Yerel Banner Engineering Corp distribütörünüzle iletişime geçerek veya doğrudan (763) 544-3164 numaralı telefondan Banner'ı arayarak ürün onarımlarıyla ilgili yardım alın. Ana dilinize çevrilmiş dokümanlara www.bannerengineering.com adresindeki Banner web sitesinden erişebilir veya (763) 544-3164 numaralı telefondan doğrudan Banner ile iletişime geçebilirsiniz.

Contact Us

Banner Engineering Corp. | 9714 Tenth Avenue North | Plymouth, MN 55441, USA | Phone: + 1 888 373 6767

For worldwide locations and local representatives, visit www.bannerengineering.com.

Banner Engineering Corp Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND WHETHER ARISING UNDER COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE.

This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. **IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.**

Banner Engineering Corp. reserves the right to change, modify or improve the design of the product without assuming any obligations or liabilities relating to any product previously manufactured by Banner Engineering Corp. Any misuse, abuse, or improper application or installation of this product or use of the product for personal protection applications when the product is identified as not intended for such purposes will void the product warranty. Any modifications to this product without prior express approval by Banner Engineering Corp will void the product warranties. All specifications published in this document are subject to change; Banner reserves the right to modify product specifications or update documentation at any time. Specifications and product information in English supersede that which is provided in any other language. For the most recent version of any documentation, refer to: www.bannerengineering.com.

For patent information, see www.bannerengineering.com/patents.

Mexican Importer

Banner Engineering de Mèxico, S. de R.L. de C.V. | David Alfaro Siqueiros 103 Piso 2 Valle oriente | San Pedro Garza Garcia Nuevo Leòn, C. P. 66269

81 8363.2714

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

LinkedIn

X

Facebook

Instagram



© 2026. All rights reserved.