



S100 Multi-Touch Display with IO-Link Product Manual

Original Instructions

p/n: 254776 Rev. A

27-May-26

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

Contents

Chapter 1 Product Overview	4
Models	4
Touch Zone Locations	5
Chapter 2 Wiring.....	6
Chapter 3 Configuration Instructions.....	7
IO-Link Overview	7
IO-Link Configuration Software	7
Connect an IO-Link Device with a Cable	7
Chapter 4 IO-Link Data Map	9
Process Data	10
Run Mode	10
Four State Logic Mode	12
Measure Mode	12
Timer Mode	13
Counter Mode	13
Indexes	14
Index 0: Direct Parameters 1	14
Index 1: Direct Parameters 2	15
Index 2: Standard Command	15
Index 12: Device Access Locks	15
Index 16: Vendor Name	16
Index 17: Vendor Text	16
Index 18: Product Name	16
Index 19: Product ID	16
Index 20: Product Text	16
Index 21: Serial Number	16
Index 22: Hardware Version	16
Index 23: Firmware Version	16
Index 24: Application Specific Tag	16
Index 36: Device Status	16
Index 37: Detailed Device Status	17
Index 80: Operating Mode Selection	17
Index 81: Additional Settings	17
Index 82: Display Settings	18
Index 83: Timer/Counter Mode Settings	19
Index 84: Measure General Configuration	20
Index 85: Measure Base Configuration	22
Index 86: Measure Threshold 1 Configuration	25
Index 87: Measure Threshold 2 Configuration	28
Index 88: Measure Threshold 3 Configuration	31
Index 89: Measure Threshold 4 Configuration	34
Index 90: State 1 Parameters	37
Index 91: State 2 Parameters	39
Index 92: State 3 Parameters	42
Index 93: State 4 Parameters	45
Index 94: Custom Color 1	48
Index 96: User Input Settings	48
Index 97: Output Settings	51
Index 98: Custom Audible Settings	53
Chapter 5 Specifications	54
FCC Part 15 Class B for Unintentional Radiators.....	54
Industry Canada ICES-003(B).....	54
Dimensions	55
Chapter 6 Accessories.....	56
Cordsets	56
Mounting Brackets.....	56
Chapter 7 Product Support and Maintenance	58

Encoding Table and Unicode Characters	58
Clean with Mild Detergent and Warm Water	62
Repairs and Translations (No Field-Replaceable Parts)	63
Contact Us	65
Banner Engineering Corp Limited Warranty	65
Mexican Importer	65

Chapter Contents

Models 4
 Touch Zone Locations 5

Chapter 1 Product Overview

The S100 Multi-Touch Display closes the gap between a traditional HMI and a panel full of push buttons for routine point-of-use operator interaction. Combining up to five touch zones with haptic feedback, audible alerts, an alphanumeric display, and a ring of 16 RGB LEDs in one low-profile housing, it gives machine builders and system integrators a compact, configurable way to build an interface that fits the task without the overhead of a traditional HMI.



- Provide direct on-device instruction and status with a configurable alphanumeric display
- Support at-a-glance awareness of machine state and progress with configurable colors and animations on a ring of 16 RGB LEDs
- Improve input accuracy with haptic feedback that confirms operator input
- Increase status awareness and input accuracy with audible alerts
- Streamline deployment out-of-the-box with prepared modes like takt timer, counter, measurement, pick-to-light, and more
- IO-Link® supports dynamic control, allowing the controller to update interface states at runtime and build application-specific interaction
- Enable point-of-use operator interaction directly in washdown environments with a low-profile, IP69K-rated interface

IMPORTANT: Read the following instructions before operating the light. Please download the complete S100 Multi-Touch Display with IO-Link 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 S100 Multi-Touch Display with IO-Link, 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 luminare. Veuillez télécharger la documentation technique complète des S100 Multi-Touch Display with IO-Link sur notre site www.bannerengineering.com pour les détails sur leur utilisation correcte, les applications, les notes de sécurité et les instructions de montage.

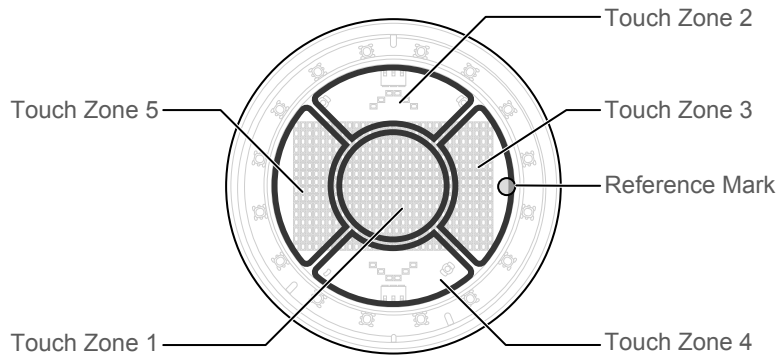
Models

Model Key

Series	Style	Touch	Display	Display Text Color	Audible	Control	Window Color	Connector ⁽¹⁾
S100	P	TV	D2	W	A	K		Q
S100 = Status, 100 mm diameter	P = Pro	TV = Touch with Vibration	D2 = Two-row display	W = White	A = Audible	K = IO-Link	Blank = Smoky	Q = Integral 4-pin M12 male quick-disconnect connector

⁽¹⁾ Models with a quick-disconnect connector require a mating cordset.

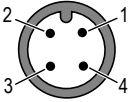
Touch Zone Locations



Chapter Contents

Chapter 2 Wiring

IO-Link Wiring

4-Pin Male M12 Pinout	Pinout Key and Wiring
 A top-down view of a circular 4-pin male M12 connector. The connector has four pins arranged in a square pattern. The pins are numbered 1, 2, 3, and 4. Pin 1 is at the top right, pin 2 is at the top left, pin 3 is at the bottom left, and pin 4 is at the bottom right. There is a small notch at the top of the connector housing.	<ol style="list-style-type: none">1. Brown - 18 V DC to 30 V DC2. White - Not used3. Blue - DC Common4. Black - IO-Link Communication

Chapter Contents

IO-Link Overview	7
IO-Link Configuration Software	7

Chapter 3 Configuration Instructions

IO-Link Overview

IO-Link is an open standard serial communication protocol that allows for the bi-directional exchange of data from IO-Link-supported devices, such as sensors, that are connected through IO-Link. For the latest IO-Link protocol and specifications, please visit <http://www.io-link.com>.

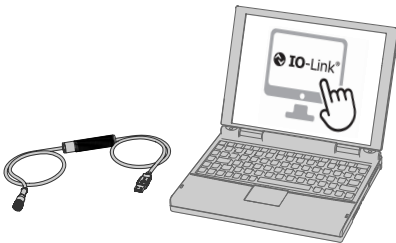


Advantages to an IO-Link system include standardized wiring, remote configuration, simple device replacement, advanced diagnostics, and increased data availability. Because IO-Link is an open standard, the devices can be integrated in almost any fieldbus or automation system.

An IO-Link system consists of an IO-Link master and an IO-Link device such as a sensor, lighting product, IO-Link hub, or actuator.

The functions and parameters of the IO-Link devices are represented in a device description file (IODD). IODD files contain information about identification, device parameters, process and diagnostic data, communication properties, and other details. The IODD files for Banner IO-link devices can be downloaded for free on www.bannerengineering.com.

IO-Link Configuration Software



Banner's IO-Link Configuration Software offers an easy way to configure Banner IO-Link masters and Banner IO-Link devices, offering users full control of master and device configuration.

This software enables you to configure the port settings for Banner serial IO-Link masters, as well as the IP address settings for Banner Ethernet IO-Link masters. It can also configure Banner IO-Link devices connected to the IO-Link master.

Download the free IO-Link Configuration Software at <https://www.bannerengineering.com/us/en/products/software/io-link-software.html>.

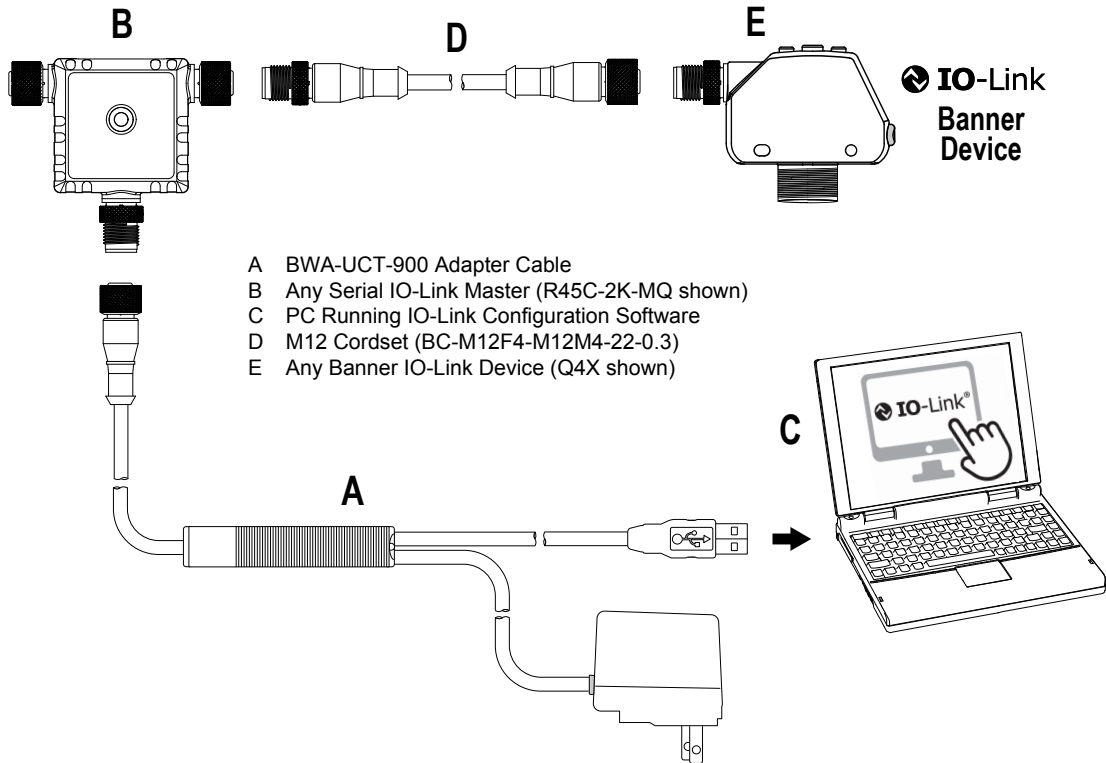
For instructions on how to use the software to configure IO-Link port settings and IO-Link devices connected to the IO-Link master, use the IO-Link Configuration Software Instruction Manual available from the software by going to **Help > Help File**. The IO-Link Configuration Software Instruction Manual can also be downloaded directly from www.bannerengineering.com.

Connect an IO-Link Device with a Cable

To connect Banner IO-Link devices:

1. Connect the Banner IO-Link device or devices to the ports on the IO-Link master using an M12 cordset.
2. Plug the applicable accessory into the IO-Link master:
 - a. For serial IO-Link masters: Use the BWA-UCT-900 adapter cable, and plug the female M12 connector into the male M12 communication port on the serial IO-Link master.
 - b. For Ethernet IO-Link masters: Use an Ethernet cordset, and plug the male M12 connector into the female M12 D-code Ethernet port on the Ethernet IO-Link master.
3. Plug the USB or RJ45 connector into the PC.
4. If applicable, plug the power cable of the BWA-UCT-900 into a wall outlet.

Example - Serial IO-Link Master Device Connection



Chapter Contents

Process Data	10
Indexes	14

Chapter 4 IO-Link Data Map

The IO-Link Data Map is used to define how operational data and configurable settings are organized and accessed within an IO-Link device. It provides the information needed for controllers and software tools to monitor device status, exchange real-time process data, and configure device parameters.

S100 Multi-Touch Display with IO-Link

Vendor ID	451 (0x01c3)
Vendor Name	Banner Engineering Corporation
Vendor Text	More Sensors. More Solutions.
Vendor URL	www.bannerengineering.com/io-link
Device ID	393245 (0x06001d)
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	S100 Multi-Touch Display with IO-Link
Product ID	S100PTVD2WAKQ
Connection Type	Integral 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

Run Mode

Process Data In

Bit Length: 48

Data Type: 48-bit Record (subindex access not supported)

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
1	40	Boolean	false = Inactive, true = Active		Button 1 State	The Touch State of Button 1.
2	41	Boolean	false = Inactive, true = Active		Button 2 State	The Touch State of Button 2.
3	42	Boolean	false = Inactive, true = Active		Button 3 State	The Touch State of Button 3.
4	43	Boolean	false = Inactive, true = Active		Button 4 State	The Touch State of Button 4.
5	44	Boolean	false = Inactive, true = Active		Button 5 State	The Touch State of Button 5.

Process Data Out

Bit Length: 256

Data Type: 256-bit Record

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
1	248	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Rotate 6 = Chase 7 = Intensity Sweep 8 = Two Color Sweep 9 = Sequence 10 = Wave 11 = Double Wave 12 = Two Color Quadrant 13 = Four Color Quadrant		Animation	The Animation type.
2	252	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom		Speed	The speed of the Animation.
3	254	2-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS		Pulse Pattern	The pattern of the Animation.

Continued on page 11

Continued from page 10

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
4	240	8-bit UInteger	0..255		Static Sequence Value (0-255)	Sets the Sequence Value for the Sequence animation.
5	232	4-bit UInteger	0 = LED1 1 = LED2 2 = LED3 3 = LED4 4 = LED5 5 = LED6 6 = LED7 7 = LED8 8 = LED9 9 = LED10 10 = LED11 11 = LED12 12 = LED13 13 = LED14 14 = LED15 15 = LED16		Sequence Start Location	Sets the starting position of the Sequence animation.
6	236	Boolean	false = Off, true = On		Top Chevron	Enables the top chevron.
7	237	Boolean	false = Off, true = On		Right Chevron	Enables the right chevron.
8	238	Boolean	false = Off, true = On		Bottom Chevron	Enables the bottom chevron.
9	239	Boolean	false = Off, true = On		Left Chevron	Enables the left chevron.
10	224	4-bit UInteger	0 = Off 1 = Green		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
11	228	4-bit UInteger	2 = Red 3 = Orange 4 = Amber		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
12	216	4-bit UInteger	5 = Yellow 6 = Lime Green 7 = Spring Green		Color 3	The third color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
13	220	4-bit UInteger	8 = Cyan 9 = Sky Blue 10 = Blue 11 = Violet 12 = Magenta 13 = Rose 14 = White 15 = Custom 1		Color 4	The fourth color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
14	208	Boolean	false = CW, true = CCW		Direction	The direction of the rotating animations.
15	209	Boolean	false = Haptic Disabled, true = Haptic Enabled		Haptic Feedback	Enable or disable Haptic Feedback.

Continued on page 12

Continued from page 11

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
16	210	6-bit Unsigned Integer	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Stacatto 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.
17	104	13-octet String UTF-8			Line 1 Text	The text displayed on Line 1 of the display window.
18	0	13-octet String UTF-8			Line 2 Text	The text displayed on Line 2 of the display window.

Four State Logic Mode

Process Data In

Bit Length: 48

Data Type: 48-bit Record (subindex access not supported)

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
1	40	Boolean	false = Inactive, true = Active		Output State	The output state. Related parameters are defined in the output and touch settings Parameter Data.
2	32	2-bit Unsigned Integer	0 = State 1 1 = State 2 2 = State 3 3 = State 4		State	The animation state. Related parameters are defined in the Four State Full Logic/Multicolor Parameter Data.

Process Data Out

Bit Length: 256

Data Type: 256-bit Record (subindex access not supported)

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
1	248	Boolean	false = Off, true = On		Job Input	The job input for Four State Logic mode.

Measure Mode

Process Data In

Bit Length: 48

Data Type: 48-bit Record (subindex access not supported)

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
1	40	Boolean	false = Inactive, true = Active		Button 1 State	The Touch State of Button 1.
2	41	Boolean	false = Inactive, true = Active		Button 2 State	The Touch State of Button 2.
3	42	Boolean	false = Inactive, true = Active		Button 3 State	The Touch State of Button 3.
4	43	Boolean	false = Inactive, true = Active		Button 4 State	The Touch State of Button 4.
5	44	Boolean	false = Inactive, true = Active		Button 5 State	The Touch State of Button 5.
6	0	Float32			Value	The current measure, timer, or counter value, depending on mode.

Process Data Out

Bit Length: 256

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.

Timer Mode

Process Data In

Bit Length: 48

Data Type: 48-bit Record (subindex access not supported)

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
1	40	Boolean	false = Inactive, true = Active		Button 1 State	The Touch State of Button 1.
2	41	Boolean	false = Inactive, true = Active		Button 2 State	The Touch State of Button 2.
3	42	Boolean	false = Inactive, true = Active		Button 3 State	The Touch State of Button 3.
4	43	Boolean	false = Inactive, true = Active		Button 4 State	The Touch State of Button 4.
5	44	Boolean	false = Inactive, true = Active		Button 5 State	The Touch State of Button 5.
6	0	Float32			Value	The current measure, timer, or counter value, depending on mode.

Process Data Out

Bit Length: 256

Data Type: 256-bit Record

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
1	248	Boolean			Run Timer	Run the timer in Timer Mode.
2	249	Boolean			Reset Timer	Reset the time in Timer Mode.

Counter Mode

Process Data In

Bit Length: 48

Data Type: 48-bit Record (subindex access not supported)

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
1	40	Boolean	false = Inactive, true = Active		Button 1 State	The Touch State of Button 1.
2	41	Boolean	false = Inactive, true = Active		Button 2 State	The Touch State of Button 2.
3	42	Boolean	false = Inactive, true = Active		Button 3 State	The Touch State of Button 3.
4	43	Boolean	false = Inactive, true = Active		Button 4 State	The Touch State of Button 4.
5	44	Boolean	false = Inactive, true = Active		Button 5 State	The Touch State of Button 5.
6	0	Float32			Value	The current measure, timer, or counter value, depending on mode.

Process Data Out

Bit Length: 256

Data Type: 256-bit Record

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Name	Description
1	248	Boolean			Increment Count	Increase the counter value when in Counter Mode.
2	249	Boolean			Decrement Count	Decrease the counter value when in Counter Mode.
3	250	Boolean			Reset Count	Reset the count in Counter Mode.

Indexes

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	
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

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	

Continued on page 16

Continued from page 15

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
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

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 = Four State Logic 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: 40-bit Record

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.
5	32	3-bit UInteger	0 = High 1 = Medium 2 = Low 3 = Off 4 = Custom	0		Global Color Intensity	Use this subindex to set the color intensity for all colors.

Index 82: Display Settings

Description: Display Settings

Data Type: 32-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		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		Intensity	Defines the level of intensity for the display.
3	4	Boolean	false = Away from the Reference Mark true = Towards the Reference Mark	0		Scroll Direction	Sets the scroll direction of the display text, either towards or away from the reference mark.
4	5	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		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 = Small true = Large	0		Font Size	Sets the font size of the display text.
6	8	2-bit UInteger	0 = Auto 1 = On 2 = Off	0		Scroll Mode Line 1	Defines whether the device scrolls the current text of Line 1. When defined as Auto, the display text scrolls if the string length (in pixels) is greater than the display's width.
7	10	2-bit UInteger	0 = Auto 1 = On 2 = Off	0		Scroll Mode Line 2	Defines whether the device scrolls the current text of Line 2. When defined as Auto, the display text scrolls if the string length (in pixels) is greater than the display's width.
8	12	Boolean	false = On, true = Off	0		Synchronous Scroll	Enable or disable synchronous scrolling, which scrolls Line 1 and Line 2 at the same rate through the use of white space. Use when displaying two lines of text that are longer than the display width.
9	13	2-bit UInteger	0 = 0 1 = 180	0		Orientation	The amount of rotation applied to the display text.
10	15	Boolean	false = Off, true = On	0		Deadspace	Enable or disable deadspace between the start and end of display strings.

Continued on page 19

Continued from page 18

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
11	16	8-bit UInteger	0..29	0		Deadspace Value	Set the amount of empty space (in columns) to insert between the start and end of display strings.
12	24	2-bit UInteger	0 = Left 1 = Right 2 = Center	0		Horizontal Justification	The justification of the display text as left, right, or center aligned when the device is not scrolling.
13	26	2-bit UInteger	0 = Top 1 = Bottom 2 = Center	0		Vertical Justification	The justification of the display text as top, bottom, or center aligned when Font Size is set to Small, and only when Line 1 contains text.

Index 83: Timer/Counter Mode Settings

Description: Timer/Counter Mode Settings

Data Type: 72-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 = Days 1 = Hours 2 = Minutes 30 = Seconds 4 = Deciseconds 5 = Centiseconds 6 = 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	0		Reset Button	Enable or disable the ability to reset the timer or counter value through the use of the button input.
5	40	8-bit UInteger	1 = Button 1 2 = Button 2 3 = Button 3 4 = Button 4	0		Count Increment Button	Enable or disable the ability to increase the counter value through the use of the button input. Only applicable for Counter Mode.
6	48	8-bit UInteger	5 = Button 5	0		Count Decrement Button	Enable or disable the ability to decrease the counter value through the use of the button input. Only applicable for Counter Mode.

Continued on page 20

Continued from page 19

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
7	56	8-bit UInteger		0		Run/Pause Button	Enable or disable the ability to run or pause the timer through the use of the button input. Only applicable for Timer Mode.
8	64	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: 336-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.
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		Display Value	Enable or disable the Value on the device's display.
5	152	8-bit UInteger	0 = Disabled 1 = Enabled	1		Display Data Label	Enable or disable the Data Label on the device's display.
6	160	8-bit UInteger	0 = Disabled 1 = Enabled	0		Display Bar Graph	Enable or disable the Measure / Timer / Counter Bar Graph on the device's display.
7	168	8-bit UInteger	0 = Disabled 1 = Enabled	0		Gauge Mode	Enable or disable the gauge fill for the outer LED indicator ring.
8	176	Boolean	false = CW, true = CCW	0		Gauge Mode Direction	The direction that Gauge Mode fills the outer LED indicator ring.

Continued on page 21

Continued from page 20

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
9	184	4-bit Uinteger	0 = LED1 1 = LED2 2 = LED3 3 = LED4 4 = LED5 5 = LED6 6 = LED7 7 = LED8 8 = LED9 9 = LED10 10 = LED11 11 = LED12 12 = LED13 13 = LED14 14 = LED15 15 = LED16	0		Gauge Mode Shift	The number of LEDs to shift the starting position of Gauge Mode by.
10	192	4-bit Uinteger	0 = Off 1 = Green 2 = Red 3 = Orange 4 = Amber 5 = Yellow 6 = Lime Green 7 = Spring Green 8 = Cyan 9 = Sky Blue 10 = Blue 11 = Violet 12 = Magenta 13 = Rose 14 = White 15 = Custom 1	0		Gauge Mode Background Color	The background color used when Gauge Mode is enabled.
11	192	16-bit Uinteger		0		Output Scale Value Low	The lowest possible number displayed.
12	208	16-bit Uinteger		10		Output Scale Value High	The highest possible number displayed.
13	224	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.
14	240	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.

Continued on page 22

Continued from page 21

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
15	256	4-octet String UTF-8		"s"		Value Label	The text that follows the Measure / Timer / Counter Mode Value, up to 4 characters.
16	288	8-bit UInteger	0 = Disabled 1 = Enabled	0		Swap Data Label and Value	Swap the lines of the Display Data Label and the Display Data Value in Measure / Timer / Counter Mode.
17	296	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.
18	304	8-bit UInteger	1..16 = Bar Graph Packages (0-16)	1		Bar Graph Height	Sets the number of LEDs to use for the Bar Graph in Measure / Timer / Counter Mode.
19	312	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.
20	320	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: 264-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	0		Display Override	Overrides the display string when in this threshold.
2	8	13-octet String UTF-8		"Base"		Override String Line 1	The string that displays when Override is enabled and operating in the current threshold / base configuration.
3	112	13-octet String UTF-8		"Base"		Override String Line 2	The string that displays when Override is enabled and operating in the current threshold / base configuration.

Continued on page 23

Continued from page 22

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
4	216	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Rotate 6 = Chase 7 = Intensity Sweep 8 = Two Color Sweep 9 = Sequence 10 = Wave 11 = Double Wave 12 = Two Color Quadrant 13 = Four Color Quadrant	0		Animation	The Animation type.
5	220	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Speed	The speed of the Animation.
6	222	2-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS	0		Pulse Pattern	The pattern of the Animation.
7	224	8-bit UInteger	0..255	0		Static Sequence Value (0-255)	Sets the Sequence Value for the Sequence animation.

Continued on page 24

Continued from page 23

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
8	232	4-bit UInteger	0 = LED1 1 = LED2 2 = LED3 3 = LED4 4 = LED5 5 = LED6 6 = LED7 7 = LED8 8 = LED9 9 = LED10 10 = LED11 11 = LED12 12 = LED13 13 = LED14 14 = LED15 15 = LED16	0		Sequence Start Location	Sets the starting position of the Sequence animation.
9	236	Boolean	false = Off, true = On	0		Top Chevron	Enables the top chevron.
10	237	Boolean	false = Off, true = On	0		Right Chevron	Enables the right chevron.
11	238	Boolean	false = Off, true = On	0		Bottom Chevron	Enables the bottom chevron.
12	239	Boolean	false = Off, true = On	0		Left Chevron	Enables the left chevron.
13	240	4-bit UInteger	0 = Off 1 = Green 2 = Red	0		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
14	244	4-bit UInteger	3 = Orange 4 = Amber 5 = Yellow 6 = Lime Green	0		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
15	248	4-bit UInteger	7 = Spring Green 8 = Cyan 9 = Sky Blue	0		Color 3	The third color of the Animation. Only used if the Animation has three colors. Custom Colors are defined in Parameter data.
16	252	4-bit UInteger	10 = Blue 11 = Violet 12 = Magenta 13 = Rose 14 = White 15 = Custom 1	0		Color 4	The fourth color of the Animation. Only used if the Animation has four colors. Custom Colors are defined in Parameter data.
17	256	Boolean	false = CW, true = CCW	0		Direction	The direction of the rotating animations.
18	257	Boolean	false = Haptic Disabled, true = Haptic Enabled	0		Haptic Feedback	Enable or disable Haptic Feedback.

Continued on page 25

Continued from page 24

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
19	258	6-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Stacatto 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: 296-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	13-octet String UTF-8		"Thresh"		Override String Line 1	The string that displays when Override is enabled and operating in the current threshold / base configuration.
7	144	13-octet String UTF-8		"1"		Override String Line 2	The string that displays when Override is enabled and operating in the current threshold / base configuration.

Continued on page 26

Continued from page 25

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
8	248	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Rotate 6 = Chase 7 = Intensity Sweep 8 = Two Color Sweep 9 = Sequence 10 = Wave 11 = Double Wave 12 = Two Color Quadrant 13 = Four Color Quadrant	1		Animation	The Animation type.
9	252	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Speed	The speed of the Animation.
10	254	2-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS	0		Pulse Pattern	The pattern of the Animation.
11	256	8-bit UInteger	0..255	0		Static Sequence Value (0-255)	Sets the Sequence Value for the Sequence animation.

Continued on page 27

Continued from page 26

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
12	264	4-bit Ulnteger	0 = LED1 1 = LED2 2 = LED3 3 = LED4 4 = LED5 5 = LED6 6 = LED7 7 = LED8 8 = LED9 9 = LED10 10 = LED11 11 = LED12 12 = LED13 13 = LED14 14 = LED15 15 = LED16	0		Sequence Start Location	Sets the starting position of the Sequence animation.
13	268	Boolean	false = Off, true = On	0		Top Chevron	Enables the top chevron.
14	269	Boolean	false = Off, true = On	0		Right Chevron	Enables the right chevron.
15	270	Boolean	false = Off, true = On	0		Bottom Chevron	Enables the bottom chevron.
16	271	Boolean	false = Off, true = On	0		Left Chevron	Enables the left chevron.
17	272	4-bit Ulnteger	0 = Off 1 = Green 2 = Red	1		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
18	276	4-bit Ulnteger	3 = Orange 4 = Amber 5 = Yellow 6 = Lime Green	0		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
19	280	4-bit Ulnteger	7 = Spring Green 8 = Cyan 9 = Sky Blue 10 = Blue	0		Color 3	The third color of the Animation. Only used if the Animation has three colors. Custom Colors are defined in Parameter data.
20	284	4-bit Ulnteger	11 = Violet 12 = Magenta 13 = Rose 14 = White 15 = Custom 1	0		Color 4	The fourth color of the Animation. Only used if the Animation has four colors. Custom Colors are defined in Parameter data.
21	288	Boolean	false = CW, true = CCW	0		Direction	The direction of the rotating animations.
22	289	Boolean	false = Haptic Disabled, true = Haptic Enabled	0		Haptic Feedback	Enable or disable Haptic Feedback.

Continued on page 28

Continued from page 27

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
23	290	6-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Stacatto 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: 296-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 (%)	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	13-octet String UTF-8		"Thresh"		Override String Line 1	The string that displays when Override is enabled and operating in the current threshold / base configuration.
7	144	13-octet String UTF-8		"2"		Override String Line 2	The string that displays when Override is enabled and operating in the current threshold / base configuration.

Continued on page 29

Continued from page 28

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
8	248	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Rotate 6 = Chase 7 = Intensity Sweep 8 = Two Color Sweep 9 = Sequence 10 = Wave 11 = Double Wave 12 = Two Color Quadrant 13 = Four Color Quadrant	1		Animation	The Animation type.
9	252	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Speed	The speed of the Animation.
10	254	2-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS	0		Pulse Pattern	The pattern of the Animation.
11	256	8-bit UInteger	0..255	0		Static Sequence Value (0-255)	Sets the Sequence Value for the Sequence animation.

Continued on page 30

Continued from page 29

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
12	264	4-bit UInteger	0 = LED1 1 = LED2 2 = LED3 3 = LED4 4 = LED5 5 = LED6 6 = LED7 7 = LED8 8 = LED9 9 = LED10 10 = LED11 11 = LED12 12 = LED13 13 = LED14 14 = LED15 15 = LED16	0		Sequence Start Location	Sets the starting position of the Sequence animation.
13	268	Boolean	false = Off, true = On	0		Top Chevron	Enables the top chevron.
14	269	Boolean	false = Off, true = On	0		Right Chevron	Enables the right chevron.
15	270	Boolean	false = Off, true = On	0		Bottom Chevron	Enables the bottom chevron.
16	271	Boolean	false = Off, true = On	0		Left Chevron	Enables the left chevron.
17	272	4-bit UInteger	0 = Off 1 = Green 2 = Red	3		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
18	276	4-bit UInteger	3 = Orange 4 = Amber 5 = Yellow 6 = Lime Green	0		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
19	280	4-bit UInteger	7 = Spring Green 8 = Cyan 9 = Sky Blue	0		Color 3	The third color of the Animation. Only used if the Animation has three colors. Custom Colors are defined in Parameter data.
20	284	4-bit UInteger	10 = Blue 11 = Violet 12 = Magenta 13 = Rose 14 = White 15 = Custom 1	0		Color 4	The fourth color of the Animation. Only used if the Animation has four colors. Custom Colors are defined in Parameter data.
21	288	Boolean	false = CW, true = CCW	0		Direction	The direction of the rotating animations.
22	289	Boolean	false = Haptic Disabled, true = Haptic Enabled	0		Haptic Feedback	Enable or disable Haptic Feedback.

Continued on page 31

Continued from page 30

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
23	290	6-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Stacatto 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: 296-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	13-octet String UTF-8		"Thresh"		Override String Line 1	The string that displays when Override is enabled and operating in the current threshold / base configuration.
7	144	13-octet String UTF-8		"3"		Override String Line 2	The string that displays when Override is enabled and operating in the current threshold / base configuration.

Continued on page 32

Continued from page 31

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
8	248	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Rotate 6 = Chase 7 = Intensity Sweep 8 = Two Color Sweep 9 = Sequence 10 = Wave 11 = Double Wave 12 = Two Color Quadrant 13 = Four Color Quadrant	1		Animation	The Animation type.
9	252	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Speed	The speed of the Animation.
10	254	2-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS	0		Pulse Pattern	The pattern of the Animation.
11	256	8-bit UInteger	0..255	0		Static Sequence Value (0-255)	Sets the Sequence Value for the Sequence animation.

Continued on page 33

Continued from page 32

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
12	264	4-bit Ulnteger	0 = LED1 1 = LED2 2 = LED3 3 = LED4 4 = LED5 5 = LED6 6 = LED7 7 = LED8 8 = LED9 9 = LED10 10 = LED11 11 = LED12 12 = LED13 13 = LED14 14 = LED15 15 = LED16	0		Sequence Start Location	Sets the starting position of the Sequence animation.
13	268	Boolean	false = Off, true = On	0		Top Chevron	Enables the top chevron.
14	269	Boolean	false = Off, true = On	0		Right Chevron	Enables the right chevron.
15	270	Boolean	false = Off, true = On	0		Bottom Chevron	Enables the bottom chevron.
16	271	Boolean	false = Off, true = On	0		Left Chevron	Enables the left chevron.
17	272	4-bit Ulnteger	0 = Off 1 = Green 2 = Red	2		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
18	276	4-bit Ulnteger	3 = Orange 4 = Amber 5 = Yellow 6 = Lime Green	0		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
19	280	4-bit Ulnteger	7 = Spring Green 8 = Cyan 9 = Sky Blue 10 = Blue	0		Color 3	The third color of the Animation. Only used if the Animation has three colors. Custom Colors are defined in Parameter data.
20	284	4-bit Ulnteger	11 = Violet 12 = Magenta 13 = Rose 14 = White 15 = Custom 1	0		Color 4	The fourth color of the Animation. Only used if the Animation has four colors. Custom Colors are defined in Parameter data.
21	288	Boolean	false = CW, true = CCW	0		Direction	The direction of the rotating animations.
22	289	Boolean	false = Haptic Disabled, true = Haptic Enabled	0		Haptic Feedback	Enable or disable Haptic Feedback.

Continued on page 34

Continued from page 33

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
23	290	6-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Stacatto 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: 296-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 (%)	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	13-octet String UTF-8		"Thresh"		Override String Line 1	The string that displays when Override is enabled and operating in the current threshold / base configuration.
7	144	13-octet String UTF-8		"4"		Override String Line 2	The string that displays when Override is enabled and operating in the current threshold / base configuration.

Continued on page 35

Continued from page 34

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
8	248	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Rotate 6 = Chase 7 = Intensity Sweep 8 = Two Color Sweep 9 = Sequence 10 = Wave 11 = Double Wave 12 = Two Color Quadrant 13 = Four Color Quadrant	7		Animation	The Animation type.
9	252	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Speed	The speed of the Animation.
10	254	2-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS	0		Pulse Pattern	The pattern of the Animation.
11	256	8-bit UInteger	0..255	0		Static Sequence Value (0-255)	Sets the Sequence Value for the Sequence animation.

Continued on page 36

Continued from page 35

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
12	264	4-bit Ulnteger	0 = LED1 1 = LED2 2 = LED3 3 = LED4 4 = LED5 5 = LED6 6 = LED7 7 = LED8 8 = LED9 9 = LED10 10 = LED11 11 = LED12 12 = LED13 13 = LED14 14 = LED15 15 = LED16	0		Sequence Start Location	Sets the starting position of the Sequence animation.
13	268	Boolean	false = Off, true = On	0		Top Chevron	Enables the top chevron.
14	269	Boolean	false = Off, true = On	0		Right Chevron	Enables the right chevron.
15	270	Boolean	false = Off, true = On	0		Bottom Chevron	Enables the bottom chevron.
16	271	Boolean	false = Off, true = On	0		Left Chevron	Enables the left chevron.
17	272	4-bit Ulnteger	0 = Off 1 = Green 2 = Red	2		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
18	276	4-bit Ulnteger	3 = Orange 4 = Amber 5 = Yellow 6 = Lime Green	0		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
19	280	4-bit Ulnteger	7 = Spring Green 8 = Cyan 9 = Sky Blue	0		Color 3	The third color of the Animation. Only used if the Animation has three colors. Custom Colors are defined in Parameter data.
20	284	4-bit Ulnteger	10 = Blue 11 = Violet 12 = Magenta 13 = Rose 14 = White 15 = Custom 1	0		Color 4	The fourth color of the Animation. Only used if the Animation has four colors. Custom Colors are defined in Parameter data.
21	288	Boolean	false = CW, true = CCW	0		Direction	The direction of the rotating animations.
22	289	Boolean	false = Haptic Disabled, true = Haptic Enabled	0		Haptic Feedback	Enable or disable Haptic Feedback.

Continued on page 37

Continued from page 36

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
23	290	6-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Stacatto 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: State 1 Parameters

Description: State 1 Parameters

Data Type: 256-bit Record (subindex access not supported)

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Rotate 6 = Chase 7 = Intensity Sweep 8 = Two Color Sweep 9 = Sequence 10 = Wave 11 = Double Wave 12 = Two Color Quadrant 13 = Four Color Quadrant	0		Animation	The Animation type.

Continued on page 38

Continued from page 37

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
2	4	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Speed	The speed of the Animation.
3	6	2-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS	0		Pulse Pattern	The pattern of the Animation.
4	8	8-bit UInteger	0..255	0		Static Sequence Value (0-255)	Sets the Sequence Value for the Sequence animation.
5	16	4-bit UInteger	0 = LED1 1 = LED2 2 = LED3 3 = LED4 4 = LED5 5 = LED6 6 = LED7 7 = LED8 8 = LED9 9 = LED10 10 = LED11 11 = LED12 12 = LED13 13 = LED14 14 = LED15 15 = LED16	0		Sequence Start Location	Sets the starting position of the Sequence animation.
6	20	Boolean	false = Off, true = On	0		Top Chevron	Enables the top chevron.
7	21	Boolean	false = Off, true = On	0		Right Chevron	Enables the right chevron.
8	22	Boolean	false = Off, true = On	0		Bottom Chevron	Enables the bottom chevron.
9	23	Boolean	false = Off, true = On	0		Left Chevron	Enables the left chevron.

Continued on page 39

Continued from page 38

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
10	24	4-bit Ulnteger	0 = Off 1 = Green	0		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
11	28	4-bit Ulnteger	2 = Red 3 = Orange 4 = Amber 5 = Yellow 6 = Lime Green	0		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
12	32	4-bit Ulnteger	7 = Spring Green 8 = Cyan 9 = Sky Blue	0		Color 3	The third color of the Animation. Only used if the Animation has three colors. Custom Colors are defined in Parameter data.
13	36	4-bit Ulnteger	10 = Blue 11 = Violet 12 = Magenta 13 = Rose 14 = White 15 = Custom 1	0		Color 4	The fourth color of the Animation. Only used if the Animation has four colors. Custom Colors are defined in Parameter data.
14	40	Boolean	false = CW, true = CCW	0		Direction	The direction of the rotating animations.
15	41	Boolean	false = Haptic Disabled, true = Haptic Enabled	0		Haptic Feedback	Enable or disable Haptic Feedback.
16	42	6-bit Ulnteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Stacatto 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.
17	48	13-octet String UTF-8		""		Line 1 Text	The text displayed on Line 1 of the display window.
18	152	13-octet String UTF-8		""		Line 2 Text	The text displayed on Line 2 of the display window.

Index 91: State 2 Parameters

Description: State 2 Parameters

Data Type: 256-bit Record (subindex access not supported)

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Rotate 6 = Chase 7 = Intensity Sweep 8 = Two Color Sweep 9 = Sequence 10 = Wave 11 = Double Wave 12 = Two Color Quadrant 13 = Four Color Quadrant	1		Animation	The Animation type.
2	4	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Speed	The speed of the Animation.
3	6	2-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS	0		Pulse Pattern	The pattern of the Animation.
4	8	8-bit UInteger	0..255	0		Static Sequence Value (0-255)	Sets the Sequence Value for the Sequence animation.

Continued on page 41

Continued from page 40

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
5	16	4-bit Ulnteger	0 = LED1 1 = LED2 2 = LED3 3 = LED4 4 = LED5 5 = LED6 6 = LED7 7 = LED8 8 = LED9 9 = LED10 10 = LED11 11 = LED12 12 = LED13 13 = LED14 14 = LED15 15 = LED16	0		Sequence Start Location	Sets the starting position of the Sequence animation.
6	20	Boolean	false = Off, true = On	0		Top Chevron	Enables the top chevron.
7	21	Boolean	false = Off, true = On	0		Right Chevron	Enables the right chevron.
8	22	Boolean	false = Off, true = On	0		Bottom Chevron	Enables the bottom chevron.
9	23	Boolean	false = Off, true = On	0		Left Chevron	Enables the left chevron.
10	24	4-bit Ulnteger	0 = Off 1 = Green 2 = Red	1		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
11	28	4-bit Ulnteger	3 = Orange 4 = Amber 5 = Yellow 6 = Lime Green	0		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
12	32	4-bit Ulnteger	7 = Spring Green 8 = Cyan 9 = Sky Blue 10 = Blue	0		Color 3	The third color of the Animation. Only used if the Animation has three colors. Custom Colors are defined in Parameter data.
13	36	4-bit Ulnteger	11 = Violet 12 = Magenta 13 = Rose 14 = White 15 = Custom 1	0		Color 4	The fourth color of the Animation. Only used if the Animation has four colors. Custom Colors are defined in Parameter data.
14	40	Boolean	false = CW, true = CCW	0		Direction	The direction of the rotating animations.
15	41	Boolean	false = Haptic Disabled, true = Haptic Enabled	0		Haptic Feedback	Enable or disable Haptic Feedback.

Continued on page 42

Continued from page 41

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
16	42	6-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Stacatto 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.
17	48	13-octet String UTF-8		"PICK"		Line 1 Text	The text displayed on Line 1 of the display window.
18	152	13-octet String UTF-8		""		Line 2 Text	The text displayed on Line 2 of the display window.

Index 92: State 3 Parameters

Description: State 3 Parameters

Data Type: 256-bit Record (subindex access not supported)

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Rotate 6 = Chase 7 = Intensity Sweep 8 = Two Color Sweep 9 = Sequence 10 = Wave 11 = Double Wave 12 = Two Color Quadrant 13 = Four Color Quadrant	1		Animation	The Animation type.
2	4	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Speed	The speed of the Animation.
3	6	2-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS	0		Pulse Pattern	The pattern of the Animation.
4	8	8-bit UInteger	0..255	0		Static Sequence Value (0-255)	Sets the Sequence Value for the Sequence animation.

Continued on page 43

Continued from page 43

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
5	16	4-bit Ulnteger	0 = LED1 1 = LED2 2 = LED3 3 = LED4 4 = LED5 5 = LED6 6 = LED7 7 = LED8 8 = LED9 9 = LED10 10 = LED11 11 = LED12 12 = LED13 13 = LED14 14 = LED15 15 = LED16	0		Sequence Start Location	Sets the starting position of the Sequence animation.
6	20	Boolean	false = Off, true = On	0		Top Chevron	Enables the top chevron.
7	21	Boolean	false = Off, true = On	0		Right Chevron	Enables the right chevron.
8	22	Boolean	false = Off, true = On	0		Bottom Chevron	Enables the bottom chevron.
9	23	Boolean	false = Off, true = On	0		Left Chevron	Enables the left chevron.
10	24	4-bit Ulnteger	0 = Off 1 = Green 2 = Red	2		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
11	28	4-bit Ulnteger	3 = Orange 4 = Amber 5 = Yellow 6 = Lime Green	0		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
12	32	4-bit Ulnteger	7 = Spring Green 8 = Cyan 9 = Sky Blue 10 = Blue	0		Color 3	The third color of the Animation. Only used if the Animation has three colors. Custom Colors are defined in Parameter data.
13	36	4-bit Ulnteger	11 = Violet 12 = Magenta 13 = Rose 14 = White 15 = Custom 1	0		Color 4	The fourth color of the Animation. Only used if the Animation has four colors. Custom Colors are defined in Parameter data.
14	40	Boolean	false = CW, true = CCW	0		Direction	The direction of the rotating animations.
15	41	Boolean	false = Haptic Disabled, true = Haptic Enabled	0		Haptic Feedback	Enable or disable Haptic Feedback.

Continued on page 45

Continued from page 44

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
16	42	6-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Stacatto 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.
17	48	13-octet String UTF-8		"ERR"		Line 1 Text	The text displayed on Line 1 of the display window.
18	152	13-octet String UTF-8		""		Line 2 Text	The text displayed on Line 2 of the display window.

Index 93: State 4 Parameters

Description: State 4 Parameters

Data Type: 256-bit Record (subindex access not supported)

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	4-bit UInteger	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Steady 5 = Half/Half Rotate 6 = Chase 7 = Intensity Sweep 8 = Two Color Sweep 9 = Sequence 10 = Wave 11 = Double Wave 12 = Two Color Quadrant 13 = Four Color Quadrant	1		Animation	The Animation type.
2	4	2-bit UInteger	0 = Slow 1 = Standard 2 = Fast 3 = Custom	1		Speed	The speed of the Animation.
3	6	2-bit UInteger	0 = Normal 1 = Strobe 2 = Three Pulse 3 = SOS	0		Pulse Pattern	The pattern of the Animation.
4	8	8-bit UInteger	0..255	0		Static Sequence Value (0-255)	Sets the Sequence Value for the Sequence animation.

Continued on page 46

Continued from page 46

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
5	16	4-bit Ulnteger	0 = LED1 1 = LED2 2 = LED3 3 = LED4 4 = LED5 5 = LED6 6 = LED7 7 = LED8 8 = LED9 9 = LED10 10 = LED11 11 = LED12 12 = LED13 13 = LED14 14 = LED15 15 = LED16	0		Sequence Start Location	Sets the starting position of the Sequence animation.
6	20	Boolean	false = Off, true = On	0		Top Chevron	Enables the top chevron.
7	21	Boolean	false = Off, true = On	0		Right Chevron	Enables the right chevron.
8	22	Boolean	false = Off, true = On	0		Bottom Chevron	Enables the bottom chevron.
9	23	Boolean	false = Off, true = On	0		Left Chevron	Enables the left chevron.
10	24	4-bit Ulnteger	0 = Off 1 = Green 2 = Red	5		Color 1	The main color of the Animation. Custom Colors are defined in Parameter Data.
11	28	4-bit Ulnteger	3 = Orange 4 = Amber 5 = Yellow 6 = Lime Green	0		Color 2	The secondary color of the Animation. Only used if the Animation has two colors. Custom Colors are defined in Parameter data.
12	32	4-bit Ulnteger	7 = Spring Green 8 = Cyan 9 = Sky Blue 10 = Blue	0		Color 3	The third color of the Animation. Only used if the Animation has three colors. Custom Colors are defined in Parameter data.
13	36	4-bit Ulnteger	11 = Violet 12 = Magenta 13 = Rose 14 = White 15 = Custom 1	0		Color 4	The fourth color of the Animation. Only used if the Animation has four colors. Custom Colors are defined in Parameter data.
14	40	Boolean	false = CW, true = CCW	0		Direction	The direction of the rotating animations.
15	41	Boolean	false = Haptic Disabled, true = Haptic Enabled	0		Haptic Feedback	Enable or disable Haptic Feedback.

Continued on page 48

Continued from page 47

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
16	42	6-bit UInteger	0 = Off 1 = Pulse 2 = Wobble 3 = Strobe 4 = Whoop 5 = Stacatto 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.
17	48	13-octet String UTF-8		"GOOD"		Line 1 Text	The text displayed on Line 1 of the display window.
18	152	13-octet String UTF-8		""		Line 2 Text	The text displayed on Line 2 of the display window.

Index 94: Custom Color 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 96: User Input Settings

Description: User Input Settings

Data Type: 128-bit Record (subindex access not supported)

Access Rights: RW

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
1	0	2-bit UInteger	0 = Low 1 = Standard 2 = High	1		Touch Sensitivity	Defines the sensitivity of the touch button. High sensitivity allows for easier actuation. Low sensitivity prevents false actuation.

Continued on page 49

Continued from page 48

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
2	2	Boolean	false = Off, true = On	0		Only First Config	Only use the first configuration in the input settings for all of the button inputs. Process Data In is changed so only the Button 1 Input is set when any button is pressed, unless there is a group override enabled.
3	8	Boolean	false = Momentary, true = Latched	0		Button 1 Function	In Momentary mode, the output is active only while the user / touch input is activated. In Latching mode, the output activates each time the input / touch is activated.
4	9	Boolean	false = Off, true = On	0		Button 1 Mute Enable	Prevents the user / touch input from activating the output.
5	10	3-bit UInteger	0 = Disabled 1 = Button 1 2 = Button 2 3 = Button 3 4 = Button 4 5 = Button 5	0		Button 1 Group Override	When enabled, allows the button to act as part of the specified group.
6	16	16-bit UInteger	0..65535	0		Button 1 On Delay (ms)	The length of time the user / touch input needs to be activated to trigger the active state.
7	32	Boolean	false = Momentary, true = Latched	0		Button 2 Function	In Momentary mode, the output is active only while the user / touch input is activated. In Latching mode, the output activates each time the input / touch is activated.
8	33	Boolean	false = Off, true = On	0		Button 2 Mute Enable	Prevents the user / touch input from activating the output.
9	34	3-bit UInteger	0 = Disabled 1 = Button 1 2 = Button 2 3 = Button 3 4 = Button 4 5 = Button 5	0		Button 2 Group Override	When enabled, allows the button to act as part of the specified group.
10	40	16-bit UInteger	0..65535	0		Button 2 On Delay (ms)	The length of time the user / touch input needs to be activated to trigger the active state.

Continued on page 50

Continued from page 49

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
11	56	Boolean	false = Momentary, true = Latched	0		Button 3 Function	In Momentary mode, the output is active only while the user / touch input is activated. In Latching mode, the output activates each time the input / touch is activated.
12	57	Boolean	false = Off, true = On	0		Button 3 Mute Enable	Prevents the user / touch input from activating the output.
13	58	3-bit Uinteger	0 = Disabled 1 = Button 1 2 = Button 2 3 = Button 3 4 = Button 4 5 = Button 5	0		Button 3 Group Override	When enabled, allows the button to act as part of the specified group.
14	64	16-bit Uinteger	0..65535	0		Button 3 On Delay (ms)	The length of time the user / touch input needs to be activated to trigger the active state.
15	80	Boolean	false = Momentary, true = Latched	0		Button 4 Function	In Momentary mode, the output is active only while the user / touch input is activated. In Latching mode, the output activates each time the input / touch is activated.
16	81	Boolean	false = Off, true = On	0		Button 4 Mute Enable	Prevents the user / touch input from activating the output.
17	82	3-bit Uinteger	0 = Disabled 1 = Button 1 2 = Button 2 3 = Button 3 4 = Button 4 5 = Button 5	0		Button 4 Group Override	When enabled, allows the button to act as part of the specified group.
18	88	16-bit Uinteger	0..65535	0		Button 4 On Delay (ms)	The length of time the user / touch input needs to be activated to trigger the active state.
19	104	Boolean	false = Momentary, true = Latched	0		Button 5 Function	In Momentary mode, the output is active only while the user / touch input is activated. In Latching mode, the output activates each time the input / touch is activated.
20	105	Boolean	false = Off, true = On	0		Button 5 Mute Enable	Prevents the user / touch input from activating the output.

Continued on page 51

Continued from page 50

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
21	106	3-bit Uinteger	0 = Disabled 1 = Button 1 2 = Button 2 3 = Button 3 4 = Button 4 5 = Button 5	0		Button 5 Group Override	When enabled, allows the button to act as part of the specified group.
22	112	16-bit Uinteger	0..65535	0		Button 5 On Delay (ms)	The length of time the user / touch input needs to be activated to trigger the active state.

Index 97: Output Settings

Description: Output Settings

Data Type: 128-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 = Normally Closed, true = Normally Open	1		Output State	When defined as normally open, the output is active with a user / touch input. When defined as normally closed, the output is inactive with a user / touch input.
2	8	Boolean	false = Leading Edge, true = Trailing Edge	0		Button 1 Off Delay Type	A leading edge delay is triggered on the rising edge of a user / touch input. A trailing edge delay is triggered on the falling edge of a user / touch input.
3	9	Boolean	false = Off, true = On	0		Button 1 Audible Override	Allows the touch button to trigger the audible tone regardless of the current animation or mode state.
4	10	Boolean	false = Off, true = On	0		Button 1 Haptic Override	Allows the touch button to trigger haptic feedback regardless of the current animation or mode state.
5	16	16-bit Uinteger	0..65535	0		Button 1 Off Delay (ms)	The length of time before the device returns to an inactive state, after the user / touch input is released.
6	32	Boolean	false = Leading Edge, true = Trailing Edge	0		Button 2 Off Delay Type	A leading edge delay is triggered on the rising edge of a user / touch input. A trailing edge delay is triggered on the falling edge of a user / touch input.

Continued on page 52

Continued from page 51

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
7	33	Boolean	false = Off, true = On	0		Button 2 Audible Override	Allows the touch button to trigger the audible tone regardless of the current animation or mode state.
8	34	Boolean	false = Off, true = On	0		Button 2 Haptic Override	Allows the touch button to trigger haptic feedback regardless of the current animation or mode state.
9	40	16-bit UInteger	0..65535	0		Button 2 Off Delay (ms)	The length of time before the device returns to an inactive state, after the user / touch input is released.
10	56	Boolean	false = Leading Edge, true = Trailing Edge	0		Button 3 Off Delay Type	A leading edge delay is triggered on the rising edge of a user / touch input. A trailing edge delay is triggered on the falling edge of a user / touch input.
11	57	Boolean	false = Off, true = On	0		Button 3 Audible Override	Allows the touch button to trigger the audible tone regardless of the current animation or mode state.
12	58	Boolean	false = Off, true = On	0		Button 3 Haptic Override	Allows the touch button to trigger haptic feedback regardless of the current animation or mode state.
13	64	16-bit UInteger	0..65535	0		Button 3 Off Delay (ms)	The length of time before the device returns to an inactive state, after the user / touch input is released.
14	80	Boolean	false = Leading Edge, true = Trailing Edge	0		Button 4 Off Delay Type	A leading edge delay is triggered on the rising edge of a user / touch input. A trailing edge delay is triggered on the falling edge of a user / touch input.
15	81	Boolean	false = Off, true = On	0		Button 4 Audible Override	Allows the touch button to trigger the audible tone regardless of the current animation or mode state.
16	82	Boolean	false = Off, true = On	0		Button 4 Haptic Override	Allows the touch button to trigger haptic feedback regardless of the current animation or mode state.
17	88	16-bit UInteger	0..65535	0		Button 4 Off Delay (ms)	The length of time before the device returns to an inactive state, after the user / touch input is released.

Continued on page 53

Continued from page 52

Subindex	Bit Offset	Data Type	Allowed Values	Default Value	Acc. Restr.	Name	Description
18	104	Boolean	false = Leading Edge, true = Trailing Edge	0		Button 5 Off Delay Type	A leading edge delay is triggered on the rising edge of a user / touch input. A trailing edge delay is triggered on the falling edge of a user / touch input.
19	105	Boolean	false = Off, true = On	0		Button 5 Audible Override	Allows the touch button to trigger the audible tone regardless of the current animation or mode state.
20	106	Boolean	false = Off, true = On	0		Button 5 Haptic Override	Allows the touch button to trigger haptic feedback regardless of the current animation or mode state.
21	112	16-bit UInteger	0..65535	0		Button 5 Off Delay (ms)	The length of time before the device returns to an inactive state, after the user / touch input is released.

Index 98: 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

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 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

Chapter Contents

FCC Part 15 Class B for Unintentional Radiators 54
 Industry Canada ICES-003(B)..... 54
 Dimensions..... 55

Chapter 5 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

280 mA max. at 18 V DC
 210 mA max. at 24 V DC
 165 mA max. at 30 V DC

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Touch Response Time

300 ms maximum

Connections

Integral 4-pin M12 male quick-disconnect connector
 Models require a mating cordset

Operating Temperature

-40 °C to +50 °C (-40 °F to +122 °F)

Storage Temperature

-40 °C to +70 °C (-40 °F to +158 °F)

Environmental Rating

Rated IP69K per ISO 20653
 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)

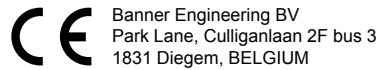
Construction

Black polycarbonate housing
 Internal silicone-encapsulated LEDs
 Smoky polycarbonate window

Character Limit

Small Font: 13 characters per line (26 characters total)
 Large Font: 13 characters total

Certifications



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

M30 x 1.5 threaded base, maximum torque 4.5 N·m (40 in·lbf)

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.

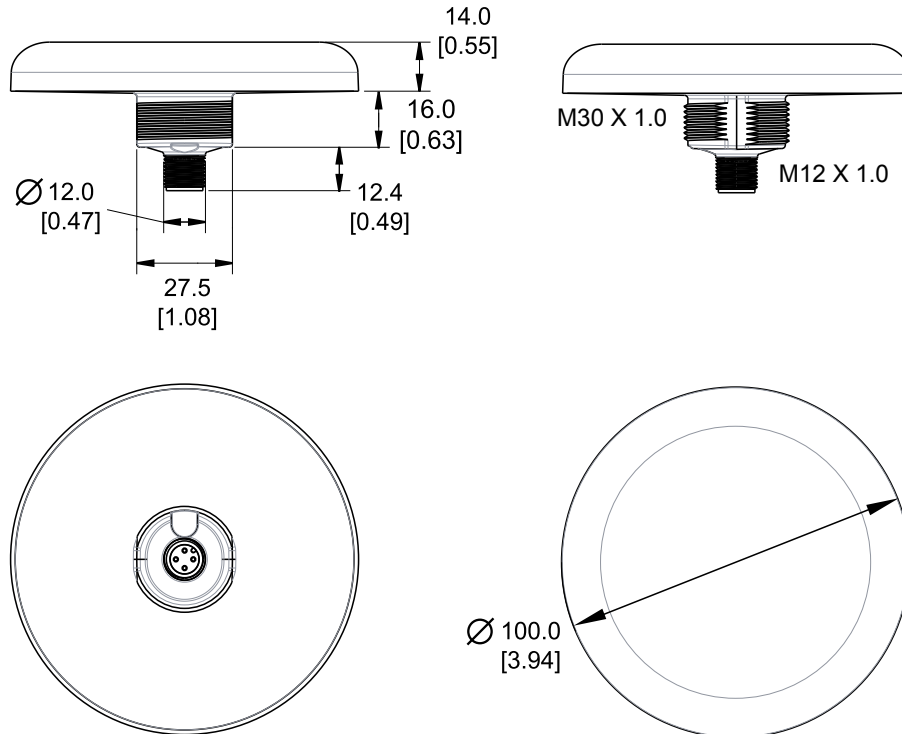
Industry Canada ICES-003(B)

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.

Dimensions

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

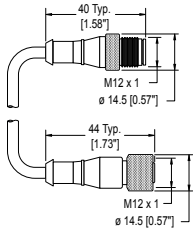


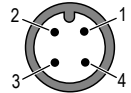


Chapter Contents

Cordsets 56
 Mounting Brackets..... 56

Chapter 6 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 	1 = Brown 2 = White 3 = Blue 4 = Black 5 = Unused 
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)		Male 	

Mounting Brackets

LMB30RAS

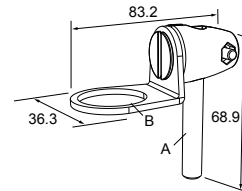
- Right-angle bracket for indicator light mounting
- Fits M30 × 2 base
- Stainless steel
- CAD Files: [DXF](#), [PDF](#), [IGS](#), [STP](#)



SMB30FA

- Swivel bracket with tilt and pan movement for precise adjustment
- Mounting hole for 30 mm sensor
- 12-gauge 304 stainless steel
- Easy sensor mounting to extrude rail T-slot
- Metric- and inch-size bolt available
- CAD Files: [DXF](#), [PDF](#), [IGS](#), [STP](#)

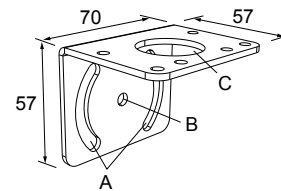
Bolt thread: SMB30FA, A=3/8 - 16 × 2 in; SMB30FAL, A=3/8 - 16 × 4 in; SMB30FAM10, A=M10 - 1.5 × 50
Hole size: B=∅ 30.1



SMB30MM

- 12-gauge stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (1/4 in) hardware
- Mounting hole for 30 mm sensor
- CAD Files: [DXF](#), [PDF](#), [IGS](#), [STP](#)

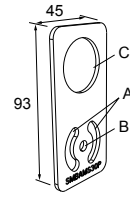
Hole center spacing: A=51, A to B=25.4
Hole size: A=42.6 × 7, B=∅ 6.4, C=∅ 30.1



SMBAMS30P

- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-gauge 300 series stainless steel
- CAD Files: [DXF](#), [PDF](#), [IGS](#), [STP](#)

Hole center spacing: A=26.0, A to B=13.0
Hole size: A=26.8 × 7.0, B=∅ 6.5, C=∅ 31.0



Chapter Contents

Encoding Table and Unicode Characters	58
Clean with Mild Detergent and Warm Water	62
Repairs and Translations (No Field-Replaceable Parts)	63
Contact Us	65
Banner Engineering Corp Limited Warranty	65

Chapter 7 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

Continued on page 59

Continued from page 58

Unicode Code Point	Character	Name
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
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

Continued on page 60

Continued from page 59

Unicode Code Point	Character	Name
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
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	SUPERSCRRIPT TWO
U+00B3	³	SUPERSCRRIPT THREE

Continued on page 61

Continued from page 60

Unicode Code Point	Character	Name
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
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

Continued on page 62

Continued from page 61

Unicode Code Point	Character	Name
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
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.

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 ou 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 rispedito 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。

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 포장해 주십시오. 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、バンナーエンジニアリングにお問い合わせください。このバンナー装置には、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。バン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、バンナーの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。バン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 reklamční 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.

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 (lade 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 erişilebilir 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 México, S. de R.L. de C.V. | David Alfaro Siqueiros 103 Piso 2 Valle oriente | San Pedro Garza Garcia Nuevo León, C. P. 66269

81 8363.2714

