



SDW-989W1-M8L-I50-S0-L1-PRD

SHADOWSENSE PRO PRODUCT DATA SHEET

The Baanto 98.9" class ShadowSense™ Pro based touchscreen delivers innovative, high performance multi-touch capabilities for large format displays. This is the perfect multi-touch solution for digital out-of-home (DOOH) and large format interactive applications.

Baanto ShadowSense™ requires no drivers or touch detection applications running on the host CPU making this technology an outstanding solution for cost sensitive applications using low power CPU's and media players.



The following operating systems are supported:

- Windows XP® / XPE®
- Windows Vista®
- Windows 7® / 7 Embedded
- Windows 8® / 8 Embedded
- Windows 10®
- Linux®
- Mac OS®
- Android™

An industry first, the Baanto Configuration Dashboard provides customers the ability to easily implement and modify the touchscreen behavior. The Dashboard allows the user to adjust the performance and touch characteristics of the touchscreen to provide spurious touch and palm rejection, debris and static object recognition, rain and fluid cancellation, and touch object characterization.

A perimeter based sensor design decouples the touch function from the protective glass providing improved optical and environmental performance, and better immunity to surface debris and scratches.

Targeted at large format applications in DOOH, interactive signage and other large format applications, the worldwide agency approvals and certifications simplify your integration and product approval efforts.



1.0 Features

- Up to ten multi-touch points available
- High Performance
 - Exceptional accuracy
 - No ghosting or dead zones
 - Outstanding ambient light rejection
 - Excellent size detection
- Fully featured
 - Real-time touch area data provided for all touch points
 - Static object detection and rejection
 - Continues to function with debris on the screen
 - Configurable hover distance for touch detection
 - Configurable spurious touch and palm rejection
 - Power saving idle mode
 - Wakeup on touch input
- No drivers or touch detection processes on host CPU
 - USB HID interface to host
 - Plug and Play
 - Windows® 7, 8 and 10 compliant packet formats
- Rigid frame design
 - Easy Assembly
 - Calibration free
 - Mechanically and thermally stable



2.0 Specifications

Description	Value
Size	98.9" Diagonal
Aspect Ratio	16:9
Number of Touches	10
Average New Touch Detection Latency*	< 14.5 ms
Touch Reporting Latency*	< 5 ms
Accuracy*	< 3.3 mm over 90% of active area
Touch Resolution	12 Bit X, 12 Bit Y
Touch Hover Distance	Can be controlled from 2mm – 5mm
Finger Separation Distance	30mm
Sub pixel Resolution	4K
Data Interface	USB 2.0 (Full Speed) HID, compatible with USB 1.1 port, HID compliant USB A Type Receptacle Can also be plugged into a USB 3.0 port RS-232
Touch Method	Finger, gloved hand or any other pointer. Stylus minimum 4mm tip
Touch Activation Force	No pressure required
Touch Durability	Unlimited
Ambient Light Rejection	Up to full sunlight
Mean Time To Failure (MTTF)	More than 200,000 hours

*Detailed reports available


3.0 Parts List

The System consists of the following components:

- Left Light Bar (LPLB-123-487-S2-000)
- Right Light Bar (LPLB-123-487-S1-000)
- Bottom Light Bar (LPLB-212-860-L0-000)
- Top Sensor Bar (LPS8-989W1-M8L-RX.X-000)
- Fastener Kit (FAST-KIT-LP01)

4.0 Power Supply Specifications & Current Measurements

The SDW-989W1-M8L requires a 12V DC switch mode power supply. The power supply is not shipped with the touch screen. The customer can always choose a power supply that meets the following requirements:

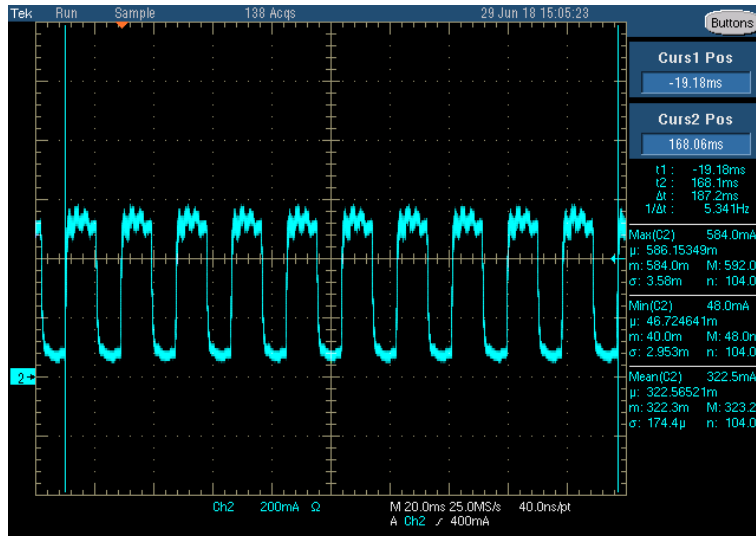
Output Requirements	Values
Output Voltage	12 V
Output Regulation (Load Regulation)	11.4 V to 12.6 V ($\pm 5\%$)
Minimum Value of Max Rated Output Current	1.0 A
Short circuit protection	Output shuts down or auto restarts
Output Connector	2.5 mm Female
Inner I.D.	2.1 mm \pm 0.1 mm
Outer I.D.	5.5 mm \pm 0.1 mm
Length	10 mm \pm 0.5 mm
Output Plug polarity	

Recommended power supply can be ordered from Digi-Key by the manufacturer Phihong USA. For ordering purposes the Manufacturer PN is **PSAC12R-120** and the Digi-Key PN is **993-1359-ND**. The Adapter plugs are bought separately. Digi-key P/N for US Adapter Plug is **993-1054-ND** and European Adapter Plug is **993-1057-ND**.

On the next page are screen shot of the current measurements for the SDW-989W1-M8L on the 12V supply line. All measurements where done with the default configuration.

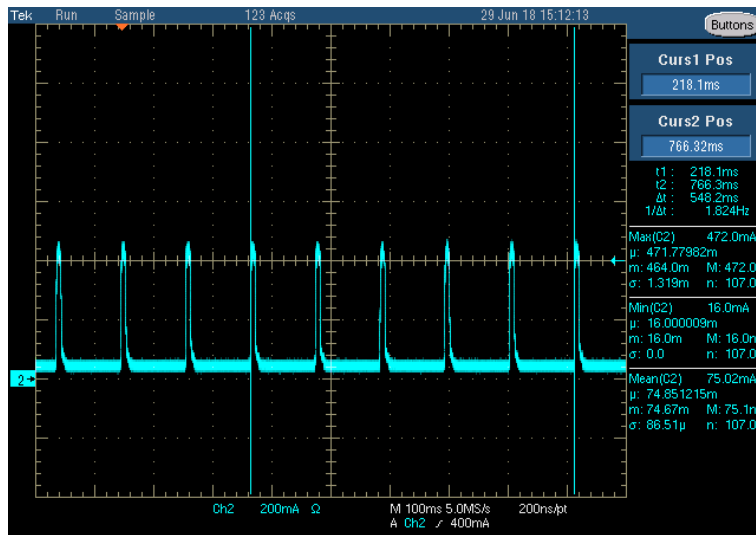
4.1 Active Mode

Parameter	Current (mA)	Power (mW)
Average Current (Typical)	322.5	3870
Max Current	584.0	7008
Min Current	48.0	576



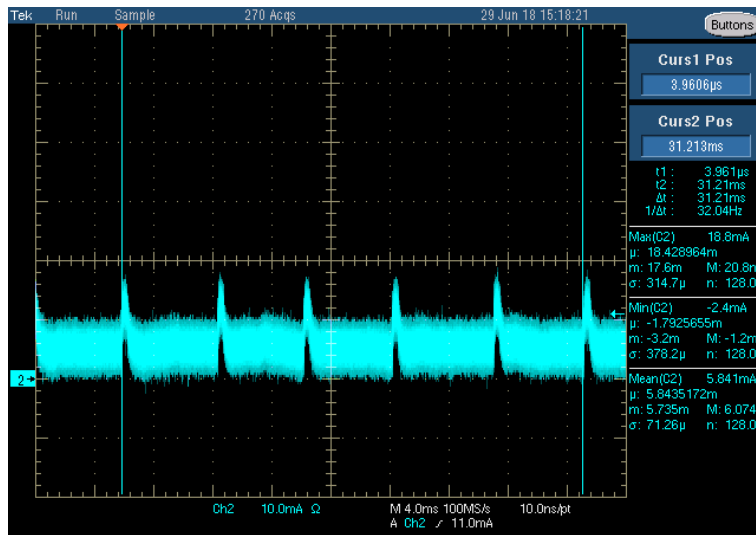
4.2 Idle Mode

Parameter	Current (mA)	Power (mW)
Average Current (Typical)	75.02	900
Max Current	472.0	5664
Min Current	16.0	192

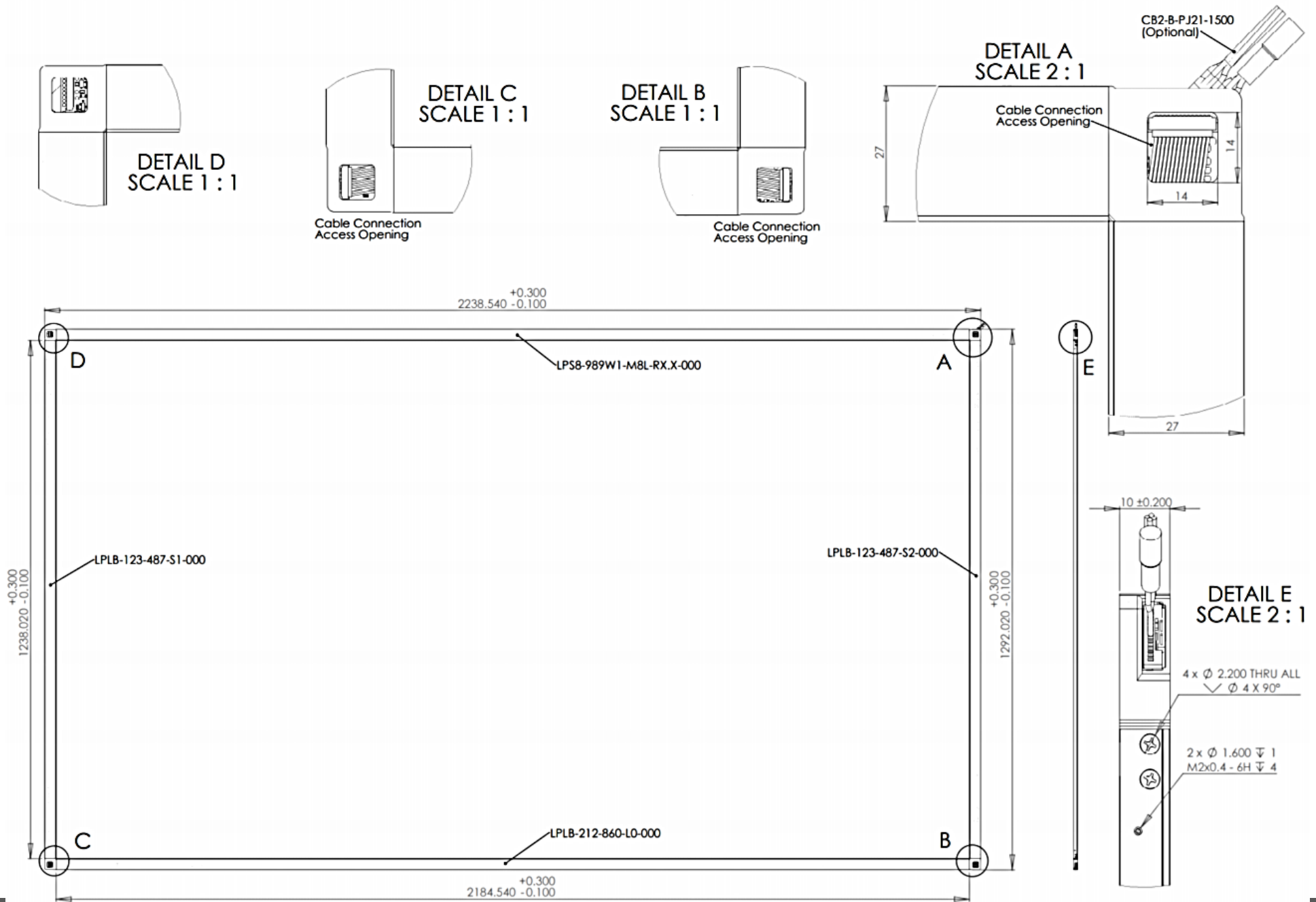


4.3 Sleep Mode

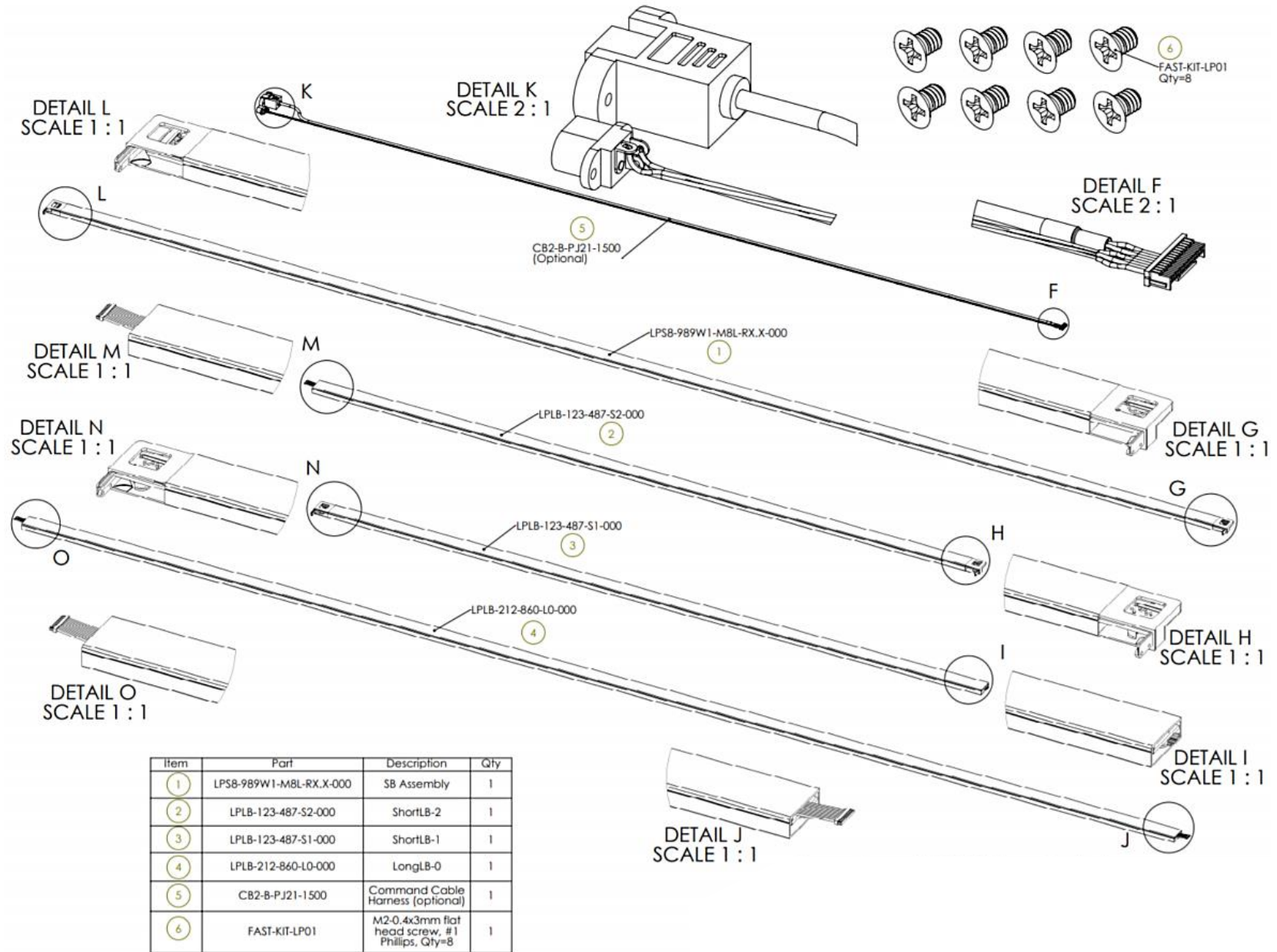
Parameter	Current (mA)	Power (mW)
Average Current (Typical)	5.841	70
Max Current	18.8	226
Min Current	-2.4	-29



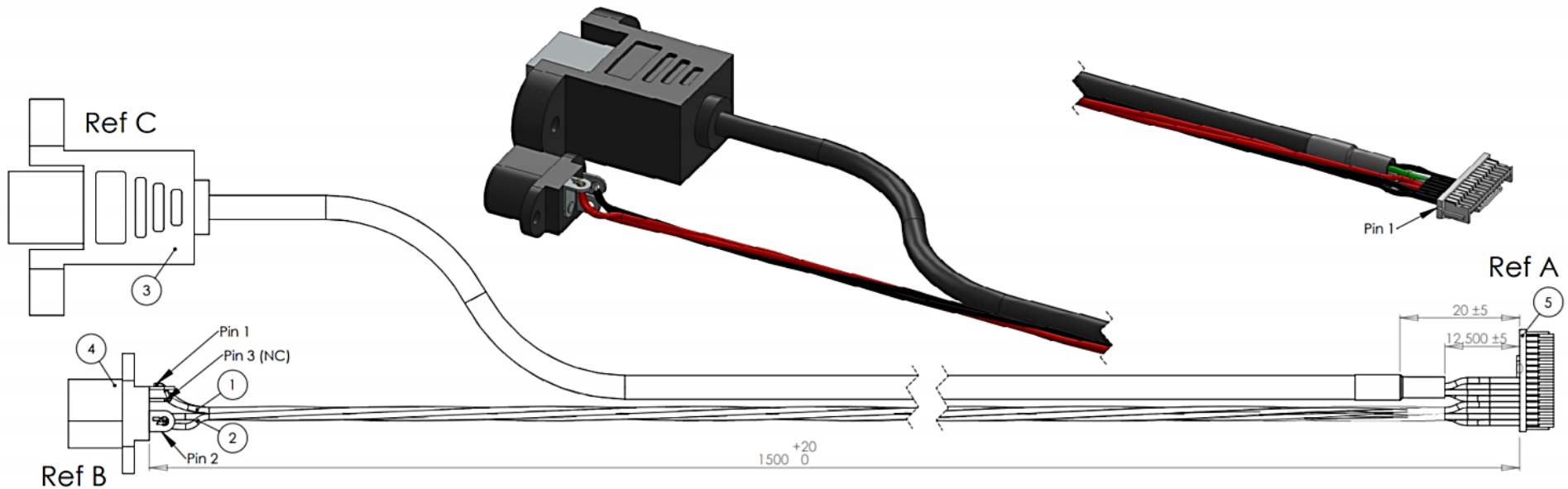
5.0 Mechanical Dimensions



6.0 Assembly Components



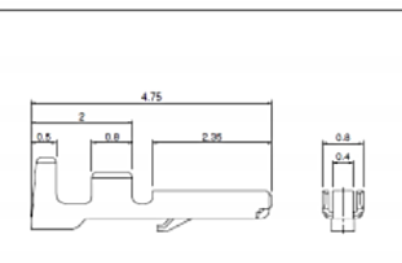
7.0 Cable Harness Specifications



* Or equivalent part allowed

Ref	Baanto Part	Mfg	Mfg Part	Description	Qty
①	7-3-0-4773	DG Nangudi*	UL1061#28BLK 7/0.127	28AWG, 7/36 PVC, 300V, 80°C, BLACK, OD=0.4~0.8mm	2 x 1507mm
②	7-3-0-4772	DG Nangudi*	UL1061#28RED 7/0.127	28AWG, 7/36 PVC, 300V, 80°C, RED, OD=0.4~0.8mm	2 x 1507mm
③	17-231-0-4744	DG Nangudi*	887-1211-02-01-RevB	USB B Panel Mount Receptacle to flying leads, 5-pin	1X 1507mm
④	16-304-0-3884	CUI Inc*	PJ-038AH	Power jack, Panel Mount, 2.0 mm, NC switch, solder eyelet 50mΩ, 16V, 2.5A	1
⑤	16-339-0-6035	JST	NSHR-15V-S	Connector Housing, 15 POS, NSH Locking Series, 1.0A, 50VDC, -25°C~85°C Pitch=1mm	1
⑥	16-313-0-4695	JST	SSHL-003T-P0.2	Crimp contact, phosphor bronze, tin plate for SHL housing, 28-32AWG	8

⑥ Contact



Model No.	Applicable wire		Insulation O.D. (mm)	Qty/ reel
	mm²	AWG#		
SSHL-003T-P0.2	0.032~0.08	32~28	0.4~0.8	41,000

Material and Finish

Phosphor bronze, tin-plated (reflow treatment)

RoHS compliance

Contact	Crimping machine	Applicator		
		Crimp applicator	Dies	Crimp applicator with dies
SSHL-003T-P0.2	AP-K2H	MKS-L-10-3	MK-SSHL-003-02	APLMK-SSHL003-02
		*MKS-SC	SC-SSHL-003-02	APLSC-SSHL003-02

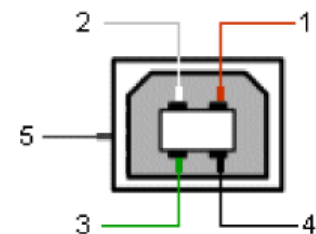
Note: *Strip-crimp applicator
Contact JST for applicable wires in case that it is not usable due to wire size.

(Continued on next page)

Ref A: JST/ NSH-15V-S				Ref B: CUI Inc./ PJ-038AH		Ref C: DG Nangudi/ 887-1211-02-01-RevB	
Signal	Colour	Pin	Crimp Terminal	Pin	Solder Eyelet	Pin	Crimp Terminal
PWR GND	Black	1	SSHL-003T-P0.2	1	soldered	~	~
PWR GND	Black	2	SSHL-003T-P0.2	1	soldered	~	~
12V PWR	Red	3	SSHL-003T-P0.2	2	soldered	~	~
12V PWR	Red	4	SSHL-003T-P0.2	2	soldered	~	~
USB Shield	Black HeatShrink	5	SSHL-003T-P0.2	~	~	5	Internally Connected, (See Figure 1)
USB D+	Green	6	SSHL-003T-P0.2	~	~	3	
USB D-	White	7	SSHL-003T-P0.2	~	~	2	
USB GND	Black	8	SSHL-003T-P0.2	~	~	4	
UART Select	~	9	~	~	~	~	~
UART3 TX	~	10	~	~	~	~	~
UART GND	~	11	~	~	~	~	~
UART2 TransTX	~	12	~	~	~	~	~
UART3 RX	~	13	~	~	~	~	~
UART TransGND	~	14	~	~	~	~	~
UART2 TransRX	~	15	~	~	~	~	~



Figure 1



USB TYPE B FEMALE
PANEL MOUNT

8.0 Environmental Specifications

Description	Value
Operating Temperature (Non-Condensing)	-10°C to +70°C
Non-Operating Temperature (Storage)	-20°C to +80°C
Operating Humidity	5% to 90% RH non-condensing
Non-Operating Humidity	5% to 90% RH non-condensing
Operating Altitude	sea level to 10,000 feet
Non-Operating Altitude	sea level to 30,000 feet
Electrostatic Discharge Protection Per Standard	IEC 61000-4-2: 2008
Air Discharge	±8KV
Contact Discharge	±4KV

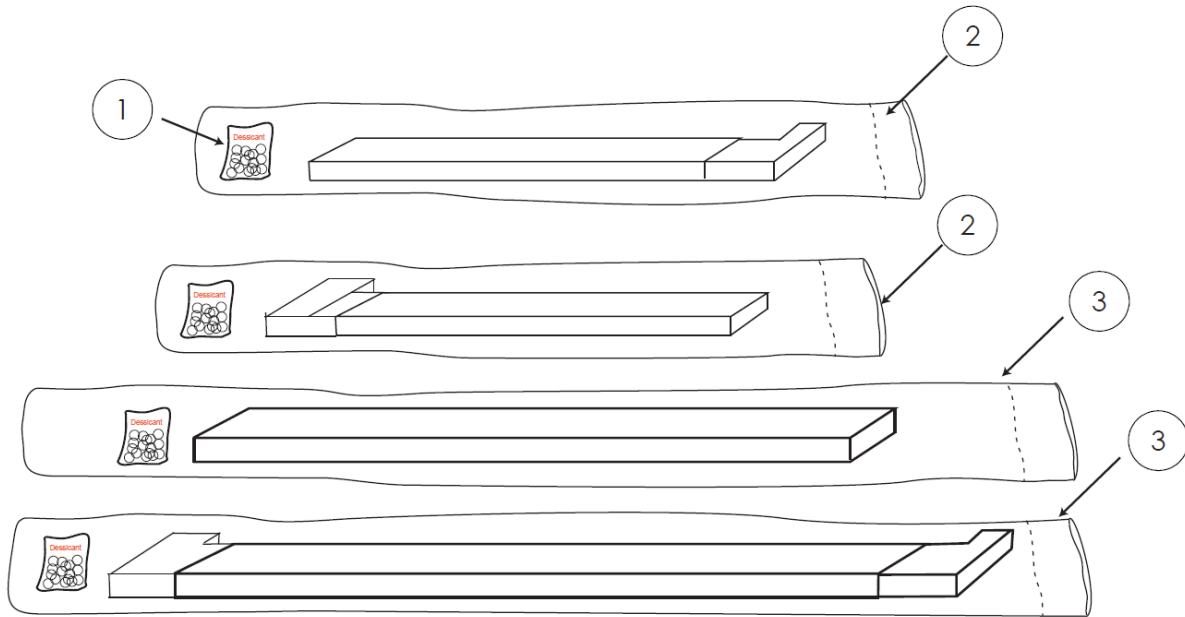
9.0 Regulatory Test Standards

Description	Value
Information technology equipment – Safety –Part1: General Requirements	IEC 60950-1:2005 (2 nd Edition) Am 1:2009, CB Scheme
Information technology equipment. Radio disturbance characteristics	CISPR 22:2008-09 / EN 55022:2010+AC: 2011, Class B
Electromagnetic compatibility (EMC). Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	EN 61000-3-2:2006+A1+A2
Electromagnetic compatibility (EMC). Limitation of Voltage Fluctuations and Flicker	EN 61000-3-3:2008
Information technology equipment. Immunity characteristics	CISPR 24:2010 / EN 55024:2010
FCC EMC Conducted & Radiated Emission	FCC Part 15, Subpart B – Class B Unintentional Radiators
Industry Canada, Information Technology Equipment (ITE)	ICES-003, Issue 5, Class B



10.0 Packing Information

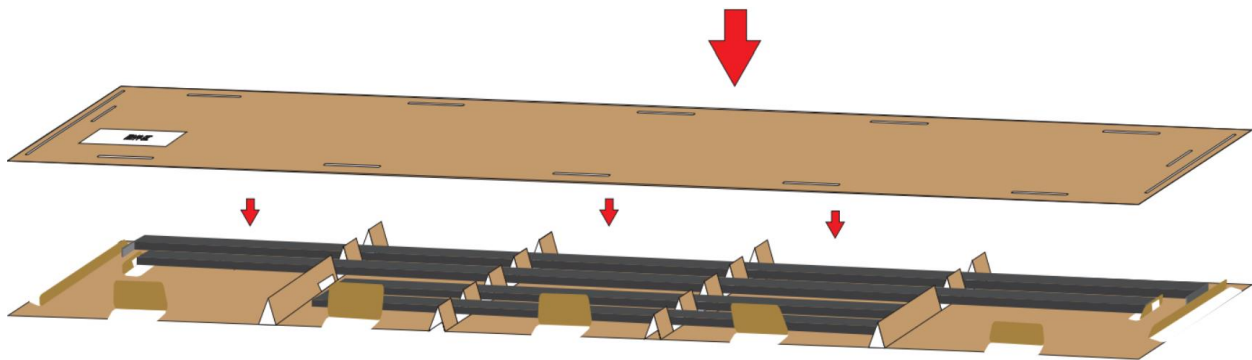
Each of the bars is individually packaged in a plastic poly bag of various lengths (2 & 3). A single desiccant pack (1) is provided within each plastic bag.



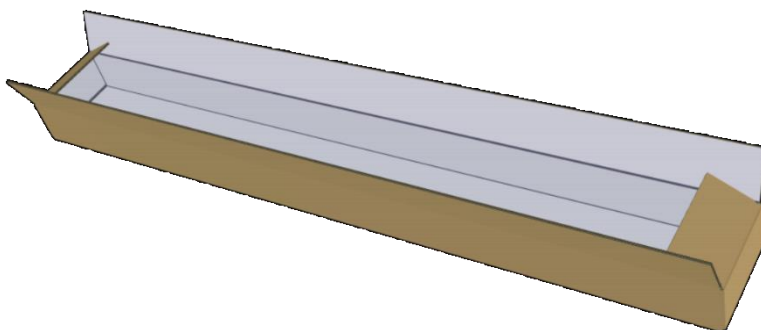
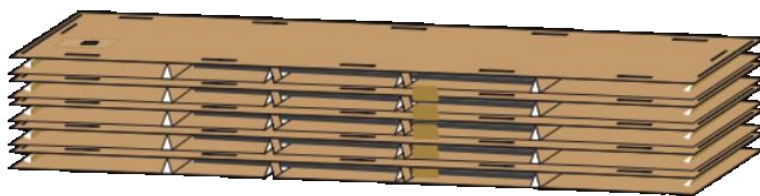
Bar	Weight
LPS8-989W1-M8L-RX.X-000	500 g
LPLB-123-487-S2-000	495 g
LPLB-123-487-S1-000	295 g
LPLB-212-860-L0-000	295 g
TOTAL	1585 g

*Weight without cable

The four bars form a single unit and are placed in a sleeve. Fastener Kit (FAST-KIT-LP01) and Cable Harness Kit (CB2-B-PJ21-1500) are included inside the sleeve.



Five complete touch screen systems are included in a single Master Carton.



Description	Length	Width	Height	Weight
Inner Sleeve	2285 mm	227 mm	20 mm	
Master Carton	2295 mm	237 mm	110 mm	15.5 kg

11.0 Ordering Information

Order the 98.9" touch screen from Baanto using the Part Number stated below. The description of each field within the part number is shown below. As more options become available then the list below will be updated. There is a minimum order quantity of 5 units.

SDW-989W1-M8L-I50-S0-L1-PRD

