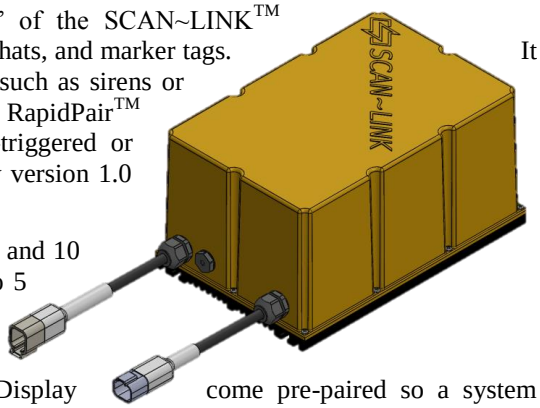
Armour System

Product Briefing v1_2
June 2016

ANTENNA VERSION 1.5

OUTLINE

The SCAN~LINK Armour System™ Antenna is the 'core' of the SCAN~LINK™ system. It detects passive RFID tags in SCAN~LINK™-tagged vests, hard hats, and marker tags. It has an optional relay system allowing for activation of external devices (such as sirens or lights) upon detection, and user-modifiable operation parameters via the RapidPair™ configuration dongle. Simple three-wire connection allows for reverse-triggered or ignition-triggered detection, and may be paired (with RapidPair™) to any version 1.0 In-Cab Display Unit



The Antenna can detect tags in excess of 25 feet (8 metres) away, and 10 feet (3 meters) side-to-side. It can be installed between 3 to 17 feet (1 to 5 metres) above grade.

Wireless communications between Antenna and Display mean faster installation (and no holes in the operator cabin), and the Antenna/Display come pre-paired so a system can be installed and tested - without requiring extra configuration - in under an hour. Low power consumption means a dedicated circuit is not required. The ABS/Aluminum IP65 casing provides the unit with a long, weather proof, damage-resistant life on even the most heavily used mobile equipment.

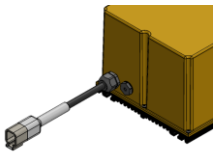
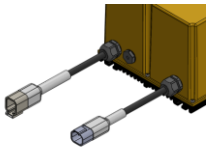
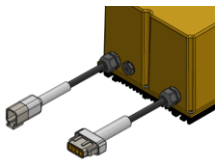
The SCAN~LINK Armour System™ finds uses in other fields as a proximity sensor, for personnel tracking, asset location and gate access controls.

The 1.5 model improves upon the 1.0 version Antenna with revisions to internal electronics and software changes (transparent to the end-user), for improved functionality.

Antenna 1.5 Units are EOL (End-Of-Life) as of August, 2016. Warranty claims will persist 13 months from sale date. Repairs will still be made after the warranty period has expired. **There are no user-serviceable parts inside.** If you wish to inquire about the warranty status of your unit, please contact us at info@scan-link.com.

MODELS

There are four SCAN~LINK Armour System™ Antenna Models. They can be identified visually as below, or by the part number sticker on the bottom (cable-exit side) of the unit:

SLAU-UV-NB	**Base** Single wire exits case bottom on the left side	
SLAU-UV-NB-RT	**Relay Trigger** 'Base' + four-pin relay output connector exiting case bottom on the right side	
SLAU-UV-NB-ERT	**Enhanced Relay Trigger** 'Relay Trigger' replaces four-pin connector with twelve-pin enhanced relay output connector exiting case on the bottom right side	
SLAU-UV-NB-ERT-DT	**Enhanced Relay Trigger w/Data Logging** Same as Enhanced Relay Trigger with additional Data Logging software upgrade (no external changes)	

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CHANGES FROM 1.0

- Communications between Antenna and In-Cab Display are now encrypted and operate approximately 20 times faster.
- FCC/IC IDs have changed (see below).
- Nominal power consumption has dropped.
- Antenna 1.5 is no longer compatible with RapidPair 1.11 dongle – use RapidPair 2.0 dongle instead.

SPECIFICATIONS

Absolute Specifications - Exceeding these may damage the unit!

Item	Minimum	Maximum	Notes
Input Voltage	+9 VDC	+34 VDC	Do not attempt to operate outside nominal 12-28VDC
Operating Temperature	-20º C	50º C	Cold temperature version available
Storage Temperature	-30º C	80º C	
Ingress Protection	IP65		Do Not Immerse
Reverse Polarity Protected	Yes*		Please see 'Reverse Polarity Notice'
Voltage Spike Withstand	75V @ 5A		

IMPORTANT: Reverse Polarity Notice

The Antenna is protected against reverse polarity – however, the device negative (-) is tied to the aluminum back plate of the device. In situations where the device is mounted to plastic or insulated from a negative grounded equipment frame, this protection will be more than adequate to prevent damage from reverse polarity.

While attached to a conductive surface that's tied to the equipment frame, applying a positive (+) voltage to the negative (-) conductor of the antenna could cause a short circuit to a negative grounded equipment frame via the aluminum back plate. If you have installed an inline fuse rated for 5A or less, it will sufficiently protect the wiring internal to the Antenna. Otherwise, damage may occur to the Antenna's internal ground wire. This repair is not covered under warranty!

Physical Specifications (with Antenna back-plate facing down)

Item	Metric (mm)	Imperial (in)	Notes
Height	128 mm	5 1/16"	'Depth' when mounted on equipment
Length	246 mm	9 11/16"	'Height' when mounted on equipment
Minimum Install Length	292 mm	11 1/2"	Clearance for cable gland and wire bend
Width	165 mm	6 1/2"	
Wire Length	400 mm	15 5/8"	Measured from case to tip of connector
Backplate	Black Anodized Aluminum		
Casing	Yellow Polycarbonate/ABS Alloy Plastic		
Mounting Channels	11 mm	7/16"	Designed for 6mm (1/4") bolts
Installation Orientation	Vertical, Cables Down		Moisture vent *must face downward*
Power Connector	Deutsch DTM04-6P		Mates w/Deutsch DTM06-6S
Relay Connector	Deutsch DT04-4P		Mates w/Deutsch DTM06-4S
Enhanced Relay Connector	Deutsch DTM04-12PA		Mates w/Deutsch DTM06-12SA

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Electrical Specifications

Item	Minimum	Maximum	Notes
Nominal Input Voltage (VCC)	+12 VDC	+28 VDC	On models with 'UV' in model number
Input Current @ 12 VDC	0.28 A		Nominal (not including Detection Relay Load)
Input Current @ 24 VDC	0.14 A		Nominal (not including Detection Relay Load)
Recommended External Fuse	5A		Ensure fuse accommodates connected relay loads
Reverse Input Trigger Voltage	6.5 VDC	VCC	Opto-isolated
Reverse Input Current Draw	1.5 mA	6 mA	Resistor limited
Detection Relay Contact Rating	-	2A @ 5VDC	RT/ERT Models Only
Solid State Output Drain Current	-	310 mA	ERT Model Only
Fault Relay Contact Rating	-	2A @ 5VDC	ERT Model Only
RFID Scanner Radio Frequency	903.2 MHz	922.0 MHz	North American unlicensed band
Wireless Link Frequency	2400 MHz	2483MHz	North American unlicensed band
Industry Canada ID	9283A-SLAU270NB		Under SCAN~LINK Technologies Inc.
FCC ID	YUU-SLAU270NB		Under SCAN~LINK Technologies Inc.

Pinout Specifications

Power Connector	**Pin 1** Power Supply	VCC (+12-28VDC)	**Pin 6** Communications*	RS-485 Signal Common, **Do Not Connect**
	Pin 2 Power Supply	VDD (-) Equipment Ground	**Pin 5** Communications*	RS-485 Signal +, **Do Not Connect**
	Pin 3 Reverse	Reverse Input	**Pin 4** Communications*	RS-485 Signal -, **Do Not Connect**

Relay Connector	**Pin 1** Power	VCC (+)		**Pin 4** Power	VDD (-)	
	Pin 2 VCC Relay	Detecting	Open	**Pin 3** VCC Relay	Detecting	VCC (+), 1A Max
		Not Detecting	VCC (+), 1A Max		Not Detecting	Open

Enhanced Relay Connector	**Pin 1** + Power	Always	VCC (+)	**Pin 12** - Power	Always	VDD (-)
	Pin 2 VCC Relay	Detecting	Open	**Pin 11** VCC Relay	Detecting	VCC (+), 1A Max
		Not Detecting	VCC (+), 1A Max		Not Detecting	Open
	Pin 3 Solid State Output	Detecting	VCC (+), 310mA Max	**Pin 10** Unused	Always	**Do Not Connect**
		Not Detecting	VDD (-), 310mA Max			
	Pin 4 Detection Relay Normally Closed	Detecting	Open	**Pin 9** Fault Relay Normally Open	Fault or No Power	Open
		Not Detecting	Connected To Detection Relay Common		No Fault	Connected to Fault Relay Common
	Pin 5 Detection Relay Common	Always	Detection Relay Common	**Pin 8** Fault Relay Common	Always	Fault Relay Common
	Pin 6 Detection Relay Normally Open	Detecting	To Detection Relay Common	**Pin 7** Fault Relay Normally Closed	Fault or No Power	Connected to Fault Relay Common
		Not Detecting	Open		No Fault	Open

RS-485 Communications Note

The RS-485 connections on the power harness are used for diagnostic and repair purposes only. They do not allow configuration, firmware upgrades or other features without specialized, proprietary software and procedures. *Any connection to these pins for any purpose or any attempt to communicate with the device not only voids any warranty claims, but may also destroy the functionality of the device beyond repair and compromise its ability to act as supplementary safety equipment.*

Compatibility Specifications

RapidPair™	RapidPair 2.0 Dongle Only
In-Cab Display Unit	Indicator version 1.5 (SLDU-006SR) or 2.0 (SLDU-006SRE)

DISCLAIMER

The SCAN~LINK Armour System™, including Antenna version 1.5, is not 'safety rated' and thus cannot be relied on as front-line defense against equipment-to-pedestrian or equipment-to-object strikes. It is intended as a supplementary safety system only, to improve operator and pedestrian awareness and to help 'fill in' blind spots. There is no replacement for proper training and operation of equipment. The SCAN~LINK Armour System™ is designed to augment existing site safety practices and policies, to further inhibit the chances of worker injuries and fatalities. Remember, pedestrians will not be detected if they are not wearing functioning, SCAN~LINKTM tagged safety wear. All employees and visitors to any operations site should be trained in the functionality of the SCAN~LINK Armour System™ and be fully aware of their surroundings while on site.

The SCAN~LINK Armour System's™ installation, operation and maintenance, in all its forms, is covered by various legal documents, disclaimers and procedures, all of which are available upon request. By using the SCAN~LINK Armour System™ or any of it's components, you are bound to adhere to the conditions and practices outlined therein.

MORE INFORMATION

For more information, please contact us via one of the methods below:

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