



SCAN~LINK

3.0 Armour System™ User Manual

This manual applies to the following Single, Dual, and Control Unit Models with In-Cab Display:

Antenna Unit Model Number: SLAU-300QB

SLAU-UV-NB-ERT-DT-M7-A	Standard Narrow Beam Antenna
SLAU-UV-NB-ERT-DT-M7-TIU-A	Standard Narrow Beam Antenna with Built-In TIU
SLAU-UV-DB-ERT-DT-M7-A	Standard Dual Narrow Beam Antenna
SLAU-UV-DB-ERT-DT-M7-TIU-A	Standard Dual Narrow Beam Antenna with Built-In TIU
SLDU-360	In-Cab Display Unit with Built-In Operator Lockout

Antenna Unit Model Number: SLCU-300QB

SLCU-UV-SC-ERT-DT-M7-A	Single Channel Control Unit
SLCU-UV-SC-ERT-DT-M7-TIU-A	Single Channel Control Unit with Built-in TIU
SLCU-UV-DC-ERT-DT-M7-A	Dual Channel Control Unit
SLCU-UV-DC-ERT-DT-M7-TIU-A	Dual Channel Control Unit with Built-in TIU
SLCU-UV-TC-ERT-DT-M7-A	Triple Channel Control Unit
SLCU-UV-TC-ERT-DT-M7-TIU-A	Triple Channel Control Unit with Built-in TIU
SLCU-UV-QC-ERT-DT-M7-A	Quad Channel Control Unit
SLCU-UV-QC-ERT-DT-M7-TIU-A	Quad Channel Control Unit with Built-in TIU
SLDU-360	In-Cab Display Unit with Built-In Operator Lockout

This guide contains directions on the FCC/IC legally mandated requirements for a proper installation.

Improper installation and/or modifications to the device not expressly approved by SCAN~LINK Technologies Inc. may expose the operator to harmful radiation and may void the user's authority to operate the equipment.

The SCAN~LINK Armour System™ is to be used only as a tool to assist a vehicle or equipment operator and does not replace any safety procedures in place, nor does it remove any responsibility for the safe operation of the vehicle or equipment from the operator.

CAUTION:

Changes or modifications not expressly approved by SCAN~LINK Technologies Inc. could void the user's authority to operate the equipment.

The SCAN~LINK Armour System™ is intended for use on mobile equipment in construction and industrial applications. It is not intended for use by the general public.

SCAN~LINK™ Technologies Inc. has made all efforts to ensure the accuracy and relevance of this document. SCAN~LINK™ Technologies Inc. and its agents reserve the right to make corrections, modifications, enhancements, improvements, and other changes to the product to enhance the functionality and reliability of the device. Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All products are sold subject to terms and conditions of sale supplied at the time of order acknowledgment. SCAN~LINK™ and/or its agents MAKE NO WARRANTIES OF ANY KIND, EXPRESSED OR IMPLIED, RELATED TO THE INFORMATION HEREBY CONTAINED.

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Product Description	1
SCAN~LINK Armour System™	1
Antenna Unit	2
Control Unit	2
In-Cab Display Unit	3
Display Legend	4
Startup & Operating Indicators	4
2.0 Directional Detection Indicators	5
3.0 Directional Detection Indicators	6
Error Codes & Indicators	8
Display Legend: Operator Controls	10
Adjustable Volume Controls & Indicators	10
Operator Lockout Controls & Indicators	11
Detection Range	12
Product Specifications: Antenna Unit	13
Antenna Unit Models & Configuration Options	13
Absolute Specifications	13
Physical Specifications	14
Electrical Specifications	15
Pinout Specifications	16
Compatibility Specifications	16
Product Specifications: Control Unit	17
Control Unit Models & Configuration Options	17
Absolute Specifications	18
Physical Specifications	19
Electrical Specifications	20
Pinout Specifications	21
Compatibility Specifications	21
Product Specifications: Display Unit	22
Display Unit Model	22
Absolute Specifications	22
Physical Specifications	23
Electrical Specifications	24
Cable Specifications	25
Compatibility Specifications	25
Agency Certifications	26
FCC	26
IC	26
FCC/IC	26
Disclaimer	27

SCAN~LINK Armour System

The SCAN~LINK Armour System™ is designed to improve operator awareness by increasing the probability of detecting workers or tagged assets in the vicinity of mobile equipment. The system detects SCAN~LINK passive RFID tags using Ultra High Frequency (UHF) technology operating within the unlicensed 902 MHz to 928 MHz Industrial, Scientific and Medical (ISM) frequency band. Proper operation of the SCAN~LINK Armour System™ requires that the worksite be free from sources of radio frequency (RF) interference. Potential sources of interference may include two-way radios, wireless crane controllers, and other RFID-based systems operating within or near the 902 MHz to 928 MHz ISM frequency band. SCAN~LINK Technologies Inc. recommends performing a Wireless Site Survey prior to installation to identify potential sources of RF interference.

The SCAN~LINK 3.0 Armour System™ consists of one or more Antenna Units, an In-Cab Display Unit, and, where applicable, a Control Unit for multi-antenna configurations. The system supports Single Node, Dual Node, Triple Node, and Quad Node detection layouts using Standard, Long Range, or Flat Panel Antenna configurations to suit a variety of equipment and application requirements. When a tagged worker or tagged asset is detected, the Antenna Unit communicates wirelessly with the Display Unit, which alerts the operator through audible and visual indications. In multi-node systems, the Display Unit's circular LED interface also identifies the detection zone, providing enhanced directional awareness. System operating parameters, including detection behavior and input configuration, are configured using the SCAN~LINK RapidPair™ software.

3.0 Antenna Unit



3.0 Control Unit



3.0 Display Unit



Figure 1: SCAN~LINK Armour System Components

Antenna Unit

The **Antenna Unit** transmits and receives digital RFID signals over the 902MHz-928MHz frequency band to search for SCAN~LINK Armour safety apparel within its detection range. The Antenna Unit processes information from the responding tags to identify if any genuine SCAN~LINK Armour vests and/or safety hats are in the range. If SCAN~LINK Armour safety apparel is detected, the Antenna Unit transmits a separate signal in the 2.4GHz frequency band to the Display Unit to activate an audible and visual warning.

The Antenna Unit requires power from the vehicle's power source. It also requires a positive activation of the Reverse Input Line if this input is configured to activate the Antenna Unit only during reverse vehicle operation. All other Antenna Unit functions are performed over the 2.4 GHz radio link. The wiring enters the Antenna Unit through a splash-proof connector to protect the device against water ingress, and a moisture vent is incorporated into the enclosure to allow internal moisture to vent to the outside. Select Antenna Unit configurations also include an integrated Telematics Interface Unit (TIU).



Figure 2: SCAN~LINK Antenna Unit

Control Unit

The SCAN~LINK Armour System™ 3.0 Control Unit is the central hub for advanced multi-antenna system configurations. It supports Single Node, Dual Node, Triple Node, and Quad Node detection layouts, enables the use of the 3.0 Flat Panel Antenna and standard Aux Node Antenna for heavy equipment and conveyor applications, and manages communication between multiple Antenna nodes and the In-Cab Display Unit. Select configurations include an integrated Telematics Interface Unit (TIU) for transmitting detection data to SCAN~VUE™, providing a flexible and scalable solution for a wide range of industrial applications.



Figure 3: SCAN~LINK Control Unit

In-Cab Display Unit

The operator in-cab **Display Unit** seen below is to be installed inside the vehicle cabin in the vicinity of the operator, viewed no closer than 20cm (8 inches), so that it can be clearly seen and heard. The Operator Display receives signals from the antenna when genuine Armour safety apparel or Rigid Marker Tags are detected in the range of the Antenna Unit.

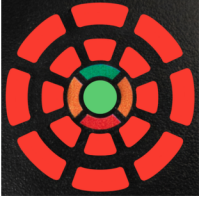
The Display Unit is in constant contact with the Antenna Unit to ensure the communication link and tag detection throughput between the antenna element and the display is functioning properly and reporting no errors. If the wireless connection between the display and the antenna is compromised, the power LED will blink amber and an optional audible sound (if enabled through the SCAN~LINK Rapid Pair™ software) will be generated. SCAN~LINK™ apparel will not be detected if the power LED is amber.



Figure 4: SCAN~LINK Display Unit Diagram

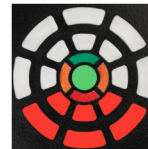
Startup & Operating Indicators

Before operating the system, review the startup and operating indicators to understand how the Display Unit communicates power, readiness, and active detection states.

INDICATOR	DESCRIPTION	NOTES
	POWER ON	At POWER ON , all lights will turn on & off in sequence and buzzer will beep 3 times. Center lights will turn RED then GREEN then ORANGE , then buzzer will beep once more.
	READY TO DETECT	System is READY TO DETECT when scanning light (Wi-Fi symbol) lights GREEN .
	APPAREL DETECTED	Illuminated in RED with centre light GREEN
	ASSET DETECTED	Illuminated in GREEN with centre light GREEN
	OPERATOR LOCKOUT ENABLED	The detection alerts from one unique apparel tag ID have been muted <i>*For more information on OPERATOR LOCKOUT see page 10</i>
	OPERATOR LOCKOUT DISABLED	A unique apparel ID tag has been detected and can be muted by pressing and releasing the RED Lockout Button <i>*For more information on OPERATOR LOCKOUT see page 10</i>

2.0 Directional Detection Indicators

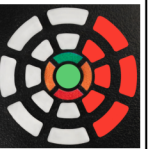
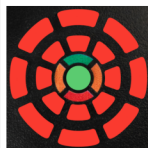
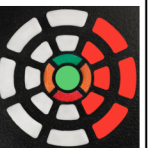
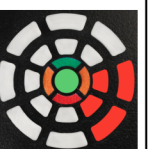
The SCAN~LINK 3.0 In-Cab Display Unit is fully compatible with the legacy SCAN~LINK 2.0 Antenna Units and may be used in the display configurations shown in the table below.

VERSION	APPLICATION	ALL	NODE 1	NODE 2	Display Config
2.0	SINGLE NODE DETECTION				1
2.0	SINGLE NODE FRONT DETECTION				14
2.0	SINGLE NODE RIGHT DETECTION				15
2.0	SINGLE NODE REAR DETECTION				16
2.0	SINGLE NODE LEFT DETECTION				17
2.0	DUAL NODE FRONT & REAR DETECTION				2
2.0	DUAL NODE REAR LEFT & REAR RIGHT DETECTION				3
2.0	DUAL NODE REAR & RIGHT DETECTION				18
2.0	DUAL NODE REAR & LEFT DETECTION				19

3.0 Directional Detection Indicators

VERSION	APPLICATION	ALL	NODE 1	NODE 2	Display Config
3.0	SINGLE NODE DETECTION				4
3.0	SINGLE NODE FRONT DETECTION				20
3.0	SINGLE NODE RIGHT DETECTION				21
3.0	SINGLE NODE REAR DETECTION				22
3.0	SINGLE NODE LEFT DETECTION				23
3.0	DUAL NODE FRONT & REAR DETECTION				5
3.0	DUAL NODE LEFT & RIGHT DETECTION				6
3.0	DUAL NODE FRONT LEFT & FRONT RIGHT DETECTION				7
3.0	DUAL NODE REAR LEFT & REAR RIGHT DETECTION				8

3.0 Directional Detection Indicators

VERSION	APPLICATION	ALL	NODE 1	NODE 2	NODE 3	NODE 4	Display Config
3.0	DUAL NODE RIGHT & REAR DETECTION						12
3.0	DUAL NODE LEFT & REAR DETECTION						13
3.0	DUAL NODE REAR & RIGHT DETECTION						24
3.0	DUAL NODE REAR & LEFT DETECTION						25
3.0	QUAD NODE 360° DETECTION						9
3.0	QUAD NODE CUSTOM DETECTION 1						10
3.0	QUAD NODE CUSTOM DETECTION 2						11

Error Codes & Indicators

Error codes alert operators to system faults or abnormal conditions that may require attention or corrective action before continued operation.

INDICATOR	MEANING	AUDIBLE	CORRECTIVE ACTION <i>*Requires RapidPair in most cases</i>
	HARDWARE ERROR Centre is SOLID RED	None	Return the In-Cab Display Unit for repair.
	COMMUNICATION ERROR Centre is BLINKING ORANGE	Beeping at 0.5Hz if 'Buzz on Communications Error' is enabled via RapidPair™	1. Check that power is within specification to the In-Cab Display and Antenna Units. 2. Check that your RapidPair dongle is compatible with both. Antenna & In-Cab Display units (see Product Briefings). 3. Check the Antenna & In-Cab Display pairing with RapidPair. 4. See the section 'In-Cab Display has only a Blinking Orange Light' below for further insight.
	CONFIGURATION ERROR Centre is BLINKING ORANGE		***Follow these steps after checking you do not have a Communication Error 1. Check that your RapidPair dongle is compatible with both the Antenna & In-Cab Display units (see Product Briefings). 2. Check the Antenna Node Properties. a. Under 'Operation', select the correct number of Antenna nodes using the "Multiplexer Lines" i. (1-4 Antennas) 3. Set the power level for each Antenna (1-4). 4. Click "ACCEPT". 5. If the error persists, contact SCAN~LINK for more support.
	THROUGHPUT ERROR Centre is BLINKING RED		1. Check the 'Diagnostics' tab under the Node Properties of the Antenna with RapidPair. 2. Confirm that 'Threshold' = 20 and 'universal ID' = 0000000000000000 (16 zeros). 3. Try increasing the 'Detect Power', found in this same tab, to a maximum of 15dBm. 4. If the error persists, return the In-Cab Display & Antenna Units for repair.

Error Codes & Indicators

INDICATOR	MEANING	AUDIBLE	CORRECTIVE ACTION <i>*Requires RapidPair in most cases</i>
	ANTENNA STARTUP ERROR <i>BLINKING RED</i>	Beeping at 0.5Hz if 'Buzz on Communications Error' is enabled via RapidPair™	1. Power cycle both the Antenna & In-Cab Display Unit. 2. Ensure that the Antenna Unit and In-Cab Display Unit are compatible (see Product Briefings) with each other and your RapidPair dongle. 3. Using RapidPair, un-pair the Antenna from the In-cab Display. 4. Power cycle both units again. 5. Re-pair the Antenna to the In-Cab Display Unit. 6. Power cycle both units once more. 7. If the error persists, return the In-Cab Display & Antenna Units for repair.
	TAG DETECTION POWER LEVEL SETTING ERROR <i>BLINKING RED</i>		
	ANTENNA DETECTION ERROR <i>BLINKING RED</i>		
	ANTENNA TEMPERATURE RANGE ERROR <i>BLINKING RED</i>		
	ANTENNA SOFT RESET ERROR <i>BLINKING RED</i>		
	ANTENNA COMMUNICATIONS PROTOCOL ERROR <i>BLINKING RED</i>		
	IN-CAB DISPLAY COMMUNICATIONS PROTOCOL ERROR <i>BLINKING RED</i>		

Adjustable Volume Controls & Indicators

The SCAN~LINK 3.0 Display Unit features **adjustable volume controls** to accommodate varying worksite conditions and operator preferences. This allows Operators to clearly hear alerts in high-noise environments while also reducing unnecessary sound in quieter settings.

When no tags are being detected, volume levels can be increased or decreased by **pressing and holding** the **RED Lockout Button** until the desired volume level is reached.



Figure 5: 3.0 Display Unit at maximum volume

INDICATOR	AUDIBLE	MEANING
	CONTINUOUS SOFT BEEP	Minimum volume
	CONTINUOUS MEDIUM BEEP	Mid-level volume
	CONTINUOUS LOUD BEEP	Maximum volume

Operator Lockout Controls & Indicators

**Operator Lockout is only available for 3.0 Display Units when paired with 3.0 Antenna Units*

In some cases, Operators may experience their own RFID tags being detected by the SCAN~LINK system installed on the equipment they are operating. This can occur when the Antenna's detection field extends into the Operator's seated position, resulting in self-detection events.

The Operator Lockout function provides an effective solution. It enables the muting of one specific piece of tagged apparel during equipment operation, allowing the system to ignore the Operator's tag while still detecting others nearby.

How the Operator Lockout Works:

- The Operator can mute their RFID tag by **pressing and releasing** the **RED Lockout Button** on the Display Unit.
- Muting is only possible when one RFID tag is being detected (alarm/detection active and indicator light green). Once muted, the indicator light will turn red.
- When the **Operator Lockout indicator light is RED**, the operator lockout function is engaged.
- Ensure that no other personnel are within detection range when muting your RFID tag, as nearby tags could be muted inadvertently.
- Only one RFID tag can be muted at a time.
- To un-mute, press the Mute button again.
- If any issues are observed, immediately report them to your supervisor or mechanic on duty.



Figure 6: 3.0 Display Unit with Operator Lockout engaged

INDICATOR	DESCRIPTION	NOTES
	OPERATOR LOCKOUT ENABLED	The detection alerts from one unique apparel tag ID have been muted
	OPERATOR LOCKOUT DISABLED	A unique apparel ID tag has been detected and can be muted by pressing and releasing the RED Lockout Button

NOTE: Only SCAN~LINK Apparel can be muted. SCAN~LINK Marker Tags *cannot* be muted.

SCAN~LINK Armour System™

The factory set detection range is approximated as a fan shaped beam, shown in Figure 3. The range is adjustable using the SCAN~LINK Rapid Pair™ software. The strength of the received digital RFID signals increases as the separation between the Antenna Unit and the SCAN~LINK Armour System™ safety apparel decreases. The onset of detection typically begins at 8 meters, however, consistent detection at 8 meters cannot be guaranteed.

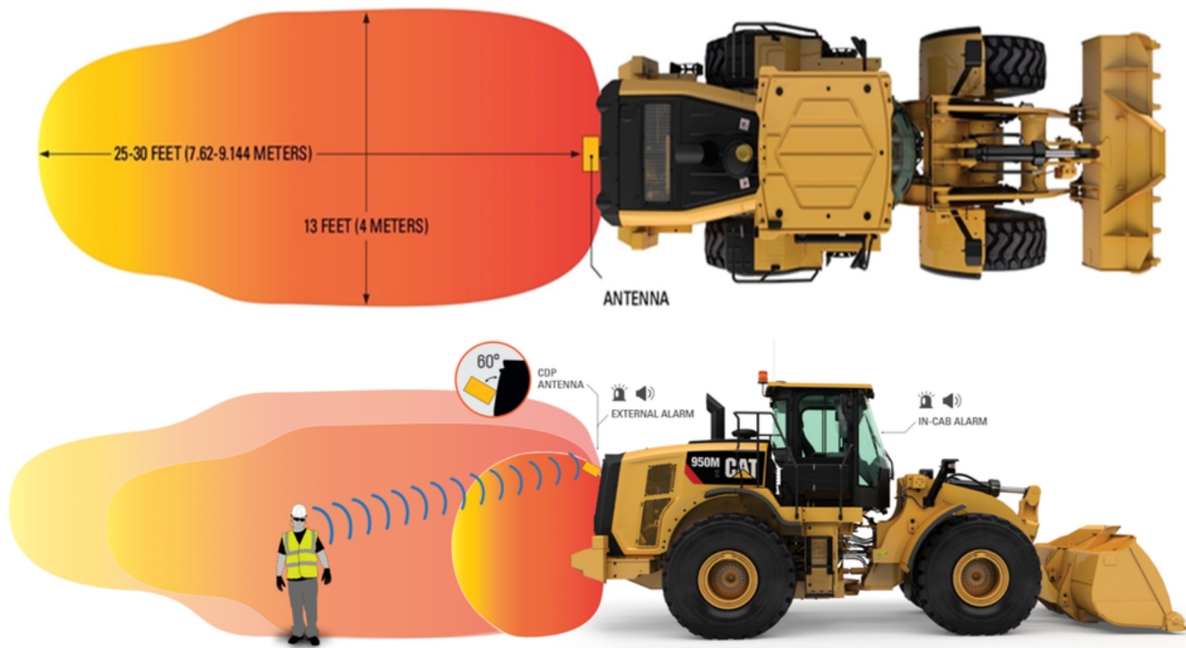


Figure 7: Approximate Detection Range

Personnel can be detected by the SCAN~LINK Armour System™ if they are wearing the SCAN~LINK Armour safety apparel and are within the detection range of the SCAN~LINK Antenna unit. Multiple RFID tags are used within the SCAN~LINK Armour safety apparel to improve the probability of detection. The ability of the SCAN~LINK Armour System™ to detect a tag will vary with tag orientation, movement, mounting surface, moisture content, line of sight and proximity to the human body.

SCAN~LINK Safety apparel should be tested regularly using a SCAN~LINK Tag Health Tester and should be kept dry and free of dirt, snow, ice and other contaminants. Proper tag mounting and orientation instructions should be followed when installing SCAN~LINK RFID Tags into Hard Hats. SCAN~LINK Safety Vests should be fully fastened to improve front and back detection.

Personnel wearing multiple articles of SCAN~LINK Safety apparel, such as a SCAN~LINK equipped Safety Vest and Hard Hat, will have a higher probability of being detected by the SCAN~LINK Armour System™ than those wearing only a single article of SCAN~LINK Safety apparel.

Antenna Unit Model & Configuration Options

The SCAN~LINK Armour System™'s 3.0 Antenna (model number SLAU-300QB) has four (4) configuration options. They can be identified by the part numbers below:

MODEL NUMBER	DESCRIPTION	EXAMPLE
SLAU-300QB	SCAN~LINK 3.0 Antenna	
CONFIGURATION OPTION	DESCRIPTION	
SLAU-UV-NB-ERT-DT-M7-A	Standard Narrow Beam Antenna	
SLAU-UV-NB-ERT-DT-M7-TIU-A	Standard Narrow Beam Antenna with Built-In TIU	
SLAU-UV-DB-ERT-DT-M7-A	Standard Dual Narrow Beam Antenna	
SLAU-UV-DB-ERT-DT-M7-TIU-A	Standard Dual Narrow Beam Antenna with Built-in TIU	

ABSOLUTE SPECIFICATIONS

EXCEEDING THESE MAY DAMAGE THE UNIT

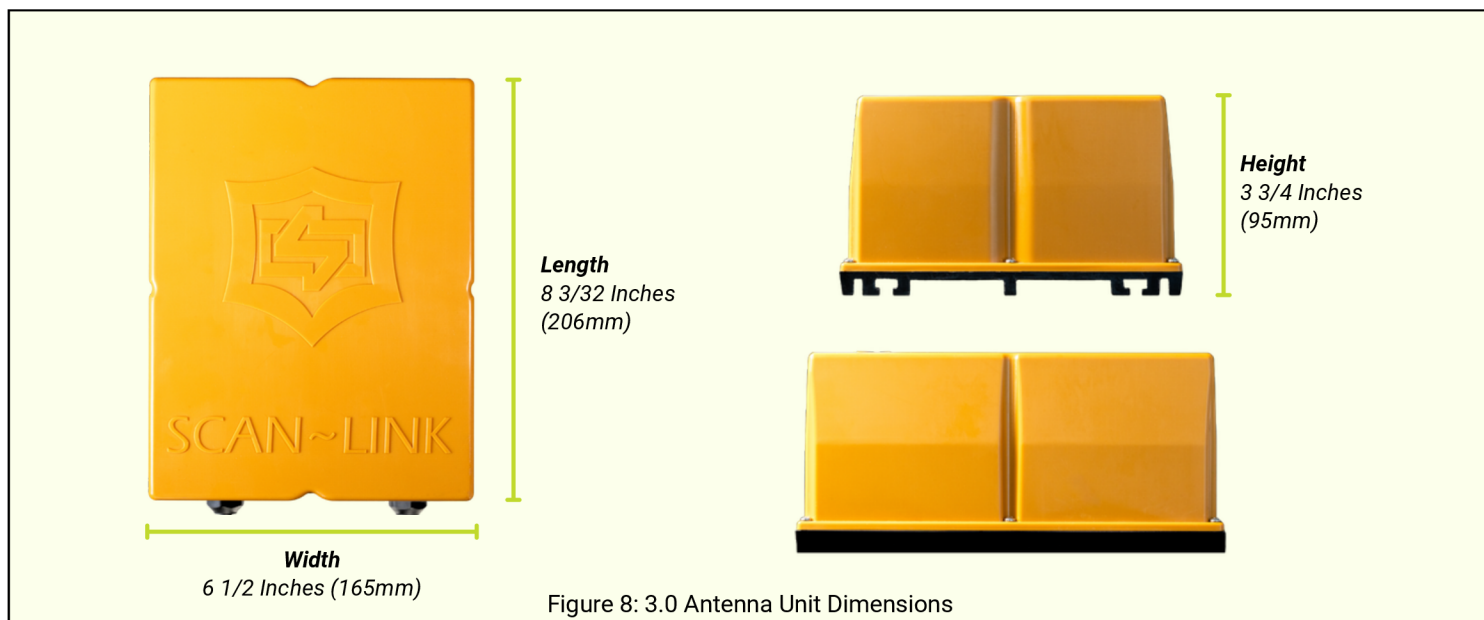
ITEM	MINIMUM	MAXIMUM	NOTES
Input Voltage	+9 VDC	+34 VDC	Do NOT attempt to operate outside nominal 12-28VDC
Operating Temperature	-20°C	50°C	Cold temperature version available
Storage Temperature	-30°C	80°C	
Ingress Protection	NEMA 3		Do Not Immerse
Reverse Polarity Protected	Yes: -34VDC		
Voltage Spike Withstand	SURVIVAL < 3ms: -600V/+400V		Unit may be disabled during spike.
Voltage Surge Withstand	SURVIVAL < 1s: +220V		Unit may be disabled during surge.

Product Specifications

3.0 Antenna Unit

PHYSICAL SPECIFICATIONS

ITEM	IMPERIAL	METRIC	NOTES
Height	3 3/4"	95mm	
Length	8 3/32"	206mm	
Width	6 1/2"	165mm	
Cable Length	15 5/8"	400mm	Measured from case to tip of connector
Minimum Install Length	11 1/2"	292mm	Clearance for cable gland and wire bend
Mounting Channels	7/16"	11mm	Designed for 1/4" (6mm) bolts
Casing	Yellow Polycarbonate/ABS Alloy Plastic		
Backplate	Black Anodized Aluminum		
Installation Orientation	Vertical, Cables Down		Moisture vent <i>must</i> face downward
Power Connector	Deutsch DTM04-6P		Mates e/Deutsch DTM06-6S
Relay Connector	Deutsch DT04-4P		Mates w/Deutsch DTM06-4S
Enhanced Relay Connector	Deutsch DTM04-12PA		Mates w/Deutsch DTM06-12SA



ELECTRICAL SPECIFICATIONS

ITEM	MINIMUM	MAXIMUM	NOTES
Nominal Input Voltage (VCC)	+12 VDC	+28 VDC	
Input Current @ 12 VDC (without TIU / with TIU)	0.51A / 0.69A		Nominal (not including VCC Relay Load)
Input Current @ 24 VDC (without TIU / with TIU)	0.28A / 0.35A		Nominal (not including VCC Relay Load)
Recommended External Fuse	5A		Ensure fuse accommodates connected relay loads
Internal Fuse	7A		Electronically limited to 6.5A
Reverse Input Trigger Voltage	+4.6VDC	+34VDC	(+220VDC surge < 1s)
Reverse Input Current Draw	100uA	760uA	Resistor limited
Reverse Input Off Voltage	-	0.8V	
Detection Relay Contact Rating	2A @ 30VDC		
Solid State Relay Voltage (AC Configuration)	-	60VDC Max/60VAC Peak	
Solid State Relay Current (AC Configuration)	-	500mA	
Solid State Relay Voltage (DC Configuration)		60VDC Max	
Solid State Relay Current (DC Configuration)		1000mA	
Fault Relay Contact Rating	2A @ 30VDC		
RFID Scanner Radio Frequency	902.3 MHz	927.7 MHz	Unlicensed ISM Band, FHSS, 3W EIRP
Wireless Link Frequency	2405 MHz	2475 MHz	Unlicensed ISM Band, 0.085W EIRP
Industry Canada ID	9283A-SLAU300QB		Under SCAN~LINK Technologies Inc.
FCC ID	YUU-SLAU300QB		Under SCAN~LINK Technologies Inc.

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.

PINOUT SPECIFICATIONS

Power Connector (6 pin)	Pin 1 Power Supply	VCC (+12-28VDC)	Pin 6 Communications*	RS-485 Signal +, 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 Common., Do Not Connect

External Beeper Alarm (2 pin)	Pin 1 VCC Relay	Detecting	VCC (+), fused 1A	Pin 2 - Power	Always	VDD (-), fused 1A
		Not Detecting	Open			

COMPATABILITY SPECIFICATIONS

RapidPair™	RapidPair 2.0 Dongle Only (RPD-SS200 or RPD-SN220)
3.0 In-Cab Display Unit	3.0 Multichannel 360 Display Unit (SLDU-360)

Control Unit Model & Configuration Options

The SCAN~LINK Armour System™'s 3.0 Control Unit (model number SLCU-300QB) has eight (8) configuration options. They can be identified by the part numbers below:

MODEL NUMBER	DESCRIPTION	EXAMPLE
SLCU-300QB	SCAN~LINK 3.0 Control Unit	
CONFIGURATION OPTION	DESCRIPTION	
SLCU-UV-SC-ERT-DT-M7-A	Single Channel Control Unit	
SLCU-UV-SC-ERT-DT-M7-TIU-A	Single Channel Control Unit with Built-in TIU	
SLCU-UV-DC-ERT-DT-M7-A	Dual Channel Control Unit	
SLCU-UV-DC-ERT-DT-M7-TIU-A	Dual Channel Control Unit with Built-in TIU	
SLCU-UV-TC-ERT-DT-M7-A	Triple Channel Control Unit	
SLCU-UV-TC-ERT-DT-M7-TIU-A	Triple Channel Control Unit with Built-in TIU	
SLCU-UV-QC-ERT-DT-M7-A	Quad Channel Control Unit	
SLCU-UV-QC-ERT-DT-M7-TIU-A	Quad Channel Control Unit with Built-in TIU	

Product Specifications

3.0 Control Unit

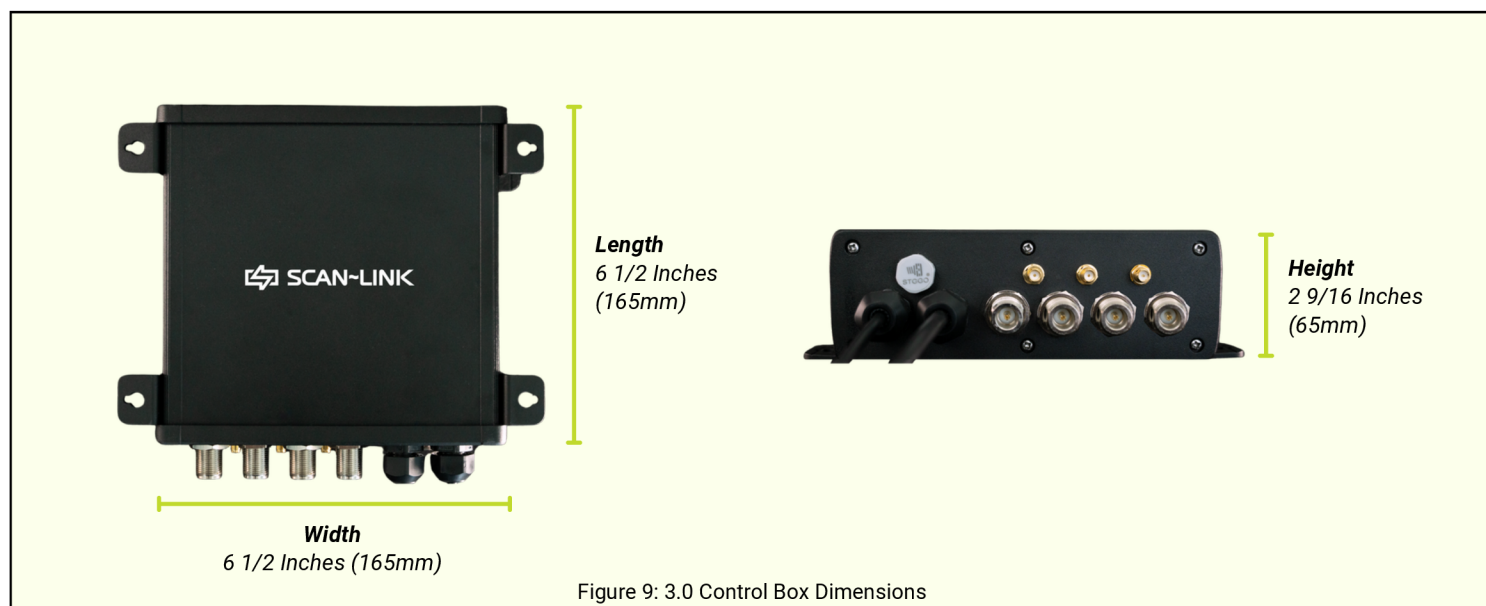
ABSOLUTE SPECIFICATIONS

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	-20°C	50°C	Cold temperature version available
Storage Temperature	-30°C	80°C	
Ingress Protection	IP65		Do Not Immerse
Reverse Polarity Protected	Yes: -34VDC		
Voltage Spike Withstand	SURVIVAL < 3ms: -600V/+400V		Unit may be disabled during spike.
Voltage Surge Withstand	SURVIVAL < 1s: +220V		Unit may be disabled during surge.

PHYSICAL SPECIFICATIONS

ITEM	IMPERIAL	METRIC	NOTES
Height	2 9/16"	65mm	'Height' when mounted on equipment
Length	6 1/2"	165mm	'Length' when mounted on equipment
Width	6 1/2"	165mm	
Cable Length	15 5/8"	400mm	Measured from case to tip of connector
Minimum Install Length	9 1/16"	230mm	Clearance for cable gland and wire bend
Mounting Channels	7/16"	11mm	Designed for 6mm (1/4") bolts
Casing	Extruded Aluminum		
Backplate	Black Anodized Aluminum		
Installation Orientation	Vertical, Cables Down		Moisture vent <i>must</i> face downward
Power Connector	Deutsch DTM04-6P		Mates e/Deutsch DTM06-6S
Relay Connector	Deutsch DT04-4P		Mates w/Deutsch DTM06-4S
Enhanced Relay Connector	Deutsch DTM04-12PA		Mates w/Deutsch DTM06-12SA



ELECTRICAL SPECIFICATIONS

ITEM	MINIMUM	MAXIMUM	NOTES
Nominal Input Voltage (VCC)	+12 VDC	+28 VDC	
Input Current @ 12 VDC (without TIU / with TIU)	0.51A / 0.69A		Nominal (not including VCC Relay Load)
Input Current @ 24 VDC (without TIU / with TIU)	0.28A / 0.35A		Nominal (not including VCC Relay Load)
Recommended External Fuse	5A		Ensure fuse accommodates connected relay loads
Internal Fuse	7A		Electronically limited to 6.5A
Reverse Input Trigger Voltage	+4.6VDC	+34VDC	(+220VDC surge < 1s)
Reverse Input Current Draw	100uA	760uA	Resistor limited
Reverse Input Off Voltage	-	0.8V	
Detection Relay Contact Rating	2A @ 30VDC		
Solid State Relay Voltage (AC Configuration)	-	60VDC Max/60VAC Peak	
Solid State Relay Current (AC Configuration)	-	500mA	
Solid State Relay Voltage (DC Configuration)		60VDC Max	
Solid State Relay Current (DC Configuration)		1000mA	
Fault Relay Contact Rating	2A @ 30VDC		
RFID Scanner Radio Frequency	902.3 MHz	927.7 MHz	Unlicensed ISM Band, FHSS, 3W EIRP
Wireless Link Frequency	2405 MHz	2475 MHz	Unlicensed ISM Band, 0.085W EIRP
Industry Canada ID	9283A-SLCU300QB		Under SCAN~LINK Technologies Inc.
FCC ID	YUU-SLCU300QB		Under SCAN~LINK Technologies Inc.

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.

PINOUT SPECIFICATIONS

Power Connector (6 pin)	Pin 1 Power Supply	VCC (+12-28VDC)	Pin 6 Communications*	RS-485 Signal +, 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 Common., Do Not Connect

External Beeper Alarm (2 pin)	Pin 1 VCC Relay	Detecting	VCC (+), fused 1A	Pin 2 - Power	Always	VDD (-), fused 1A
		Not Detecting	Open			

COMPATABILITY SPECIFICATIONS

RapidPair™	RapidPair 2.0 Dongle Only (RPD-SS200 or RPD-SN220)
3.0 In-Cab Display Unit	3.0 Multichannel 360 Display Unit (SLDU-360)

Display Unit Model

The SCAN~LINK Armour System™'s 3.0 Display Unit has one (1) model. It can be identified by the model number below:

MODEL NUMBER	DESCRIPTION	EXAMPLE
SLDU-360	SCAN~LINK 3.0 Display Unit	

ABSOLUTE SPECIFICATIONS

EXCEEDING THESE MAY DAMAGE THE UNIT

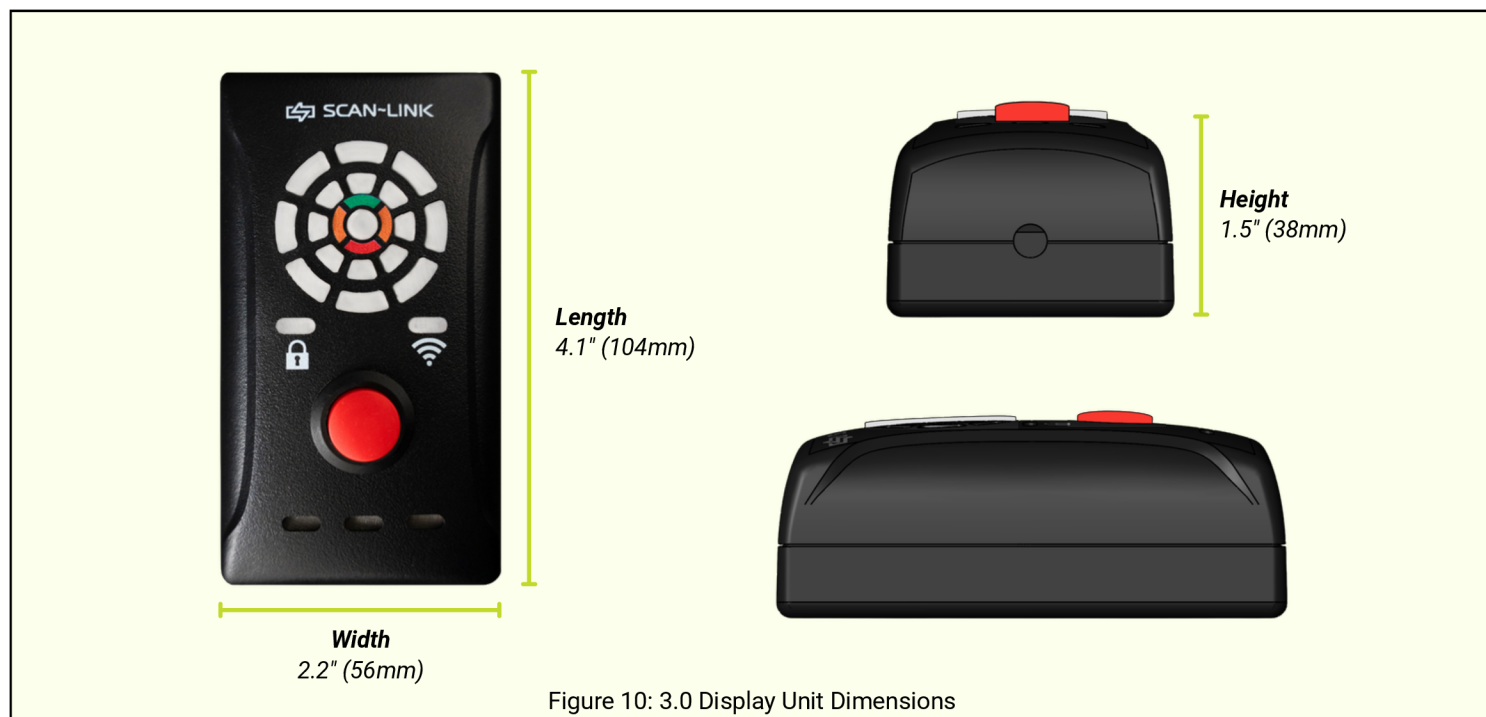
ITEM	MINIMUM	MAXIMUM	NOTES
Input Voltage	+9 VDC	+34 VDC	Do NOT attempt to operate outside nominal 12-28VDC
Operating Temperature	-20°C	50°C	Cold temperature version available
Storage Temperature	-30°C	80°C	
Ingress Protection	NEMA 3		Do Not Immerse
Reverse Polarity Protected	Yes: -34VDC		
Voltage Spike Withstand	SURVIVAL < 3ms: -600V/+400V		Unit may be disabled during spike.
Voltage Surge Withstand	SURVIVAL < 1s: +220V		Unit may be disabled during surge.

Product Specifications

3.0 Display Unit

PHYSICAL SPECIFICATIONS

ITEM	IMPERIAL	METRIC	NOTES
Height	1 1/2"	38mm	
Length	4 3/32"	104mm	
Width	2 3/16"	56mm	
Cable Length	180"	4570mm	Last 3" (75mm) are stripped back
Hook-and-Loop Thickness	1/4"	5mm	
Minimum Install Depth	3 3/4"	95mm	Clearance for wire bend
Minimum Install Distance From Operator	8"	200mm	
Casing	Black ABS		UL-94 5VB Rated
Cable Specs	3-Wire, 20ga.		Bare Wire Ends
Beeper Minimum Volume	88±1 dBa		Measured @ 200mm (8") Typical
Beeper Maximum Volume	99±1 dBa		Measured @ 200mm (8") Typical



ELECTRICAL SPECIFICATIONS

ITEM	MINIMUM	MAXIMUM	NOTES
Nominal Input Voltage (VCC)	+12 VDC	+28 VDC	
Input Current @ 12 VDC	75mA		Nominal
Input Current @ 24 VDC	50mA		Nominal
Recommended External Fuse	1A		
Internal Fuse	1.5A		Electronically limited to 1.1A
Reverse Input Trigger Voltage*	+4.6VDC	+34VDC	(+220VDC surge < 1s)
Reverse Input Current Draw*	100uA	760uA	Resistor limited
Reverse Input Off Voltage*	-	0.8V	
Wireless Link Frequency	2405 MHz	2475 MHz	Unlicensed ISM Band, 0.098W EIRP
Industry Canada ID	9084A-SM220		Under Synapse Wireless Inc.
FCC ID	U90-SM220		Under Synapse Wireless Inc.
IFT ID	201801A01279		Under Synapse Wireless Inc.

Reverse Trigger Note

The Reverse Trigger (Orange) wire may be optionally tied to a reverse signal and used in place of the Antenna's reverse signal. However, operation in this mode require additional configuration with RapidPair™ and has no function whatsoever until the appropriate settings are changed.

CABLE SPECIFICATIONS

Power Cable	Red Wire Power Supply	Always	VCC (+12-28VDC)
	Black Wire Power Supply	Always	VDD (-) Equipment Ground
	Orange Wire Reverse Input	Always	Reverse Input

COMPATABILITY SPECIFICATIONS

RapidPair™	RapidPair 2.0 Dongle Only (RPD-SS200 or RPD-SN220)
2.0 Antenna	SLAU-UV-xx-xx-xx-xx-04
3.0 Antenna	SLAU-UV-xx-xxx-DT-M7-A
3.0 Antenna with Built-In TIU	SLAU-UV-xx-xxx-DT-M7-TIU-A
3.0 Control Box	SLCU-UV-xx-xxx-DT-M7-A
3.0 Control with Built-In TIU	SLCU-UV-xx-xxx-DT-M7-TIU-A

FCC

This device complies with part 15 of the FCC Rules. 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.

Any changes or modifications of this product, not approved by manufacturer will void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the installation manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

IC

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device."

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

FCC/IC

To comply with FCC/IC RF exposure limits for general population/uncontrolled exposure, the SCAN~LINK™ SLAU Antenna Units and SLCU Control Units must be installed to provide a minimum separation distance of 50 cm (20 inches) from all persons. The SCAN~LINK™ Operator Display Unit must be installed to provide a minimum separation distance of 20 cm (8 inches) from all persons. These devices must not be co-located or operated in conjunction with any other antenna or transmitter.

The **SCAN~LINK Armour System™**, 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~LINK tagged safety apparel. 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™ installation, operation and maintenance, in all its forms, is covered by various legal documents, disclaimers and procedures, all of which are available upon request and via our website (www.scan-link.com). By using the SCAN~LINK Armour System™ or any of its components, you are bound to adhere to the conditions and practices outlined therein.

For more information on RF exposure and compliance, please visit the following links:

<https://apps.fcc.gov/oetcf/eas/reports/GenericSearch.cfm>

<https://sms-sgs.ic.gc.ca/search/radioEquipmentPortal>

CONTACT US

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