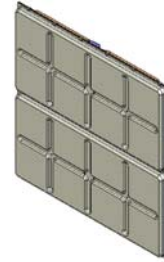


Signal Acquisition and Source Location (SASL) unit,
4x4 Antenna System

16 element phased array antenna system for use
with ISO 18000-6C / EPC Gen 2 RFID tags.



System Overview

Description

The 4x4 Antenna System is a single panel steerable phased array RFID system. The 4x4 Antenna System is comprised of two “2x4” Beam Steering Units (BSU’s), a system controller, an RFID reader, a power supply, and the mechanical framework to allow the system to be mounted in a factory environment. See the ITCS description for a full system description.

Interfaces:

- Data Connector – RJ45 10/100 Ethernet
- Power Connector – IEC-320

Indicators:

- Power LED (Green = power on, Off = power off)
- Data LED / Ethernet Link (Yellow = Link, Off = No Link, Blink = Data Tx/Rx)

Specifications

Performance Specifications:	Min	Max	Units
Tag read period ¹	-	25	ms
Tag location accuracy ²	-	3 (0.9)	ft(m)
Scan Angle – Horizontal	-30	30	Degrees
Scan Angle – Vertical	-30	30	Degrees
Beam width	7	8	Degrees
Power Level ³	0.04	4	W-EIRP
Antenna Gain	7.2	8.6	dBi
Power Requirements	Min	Max	Units
Voltage	90	264	Vac
Frequency	47	63	Hz
Current – 115Vac	-	3.2	Arms
Current – 230Vac	-	1.7	Arms

¹ Time to read one tag, given a Q of 0 (tag population of 1). System is turned on and enabled.

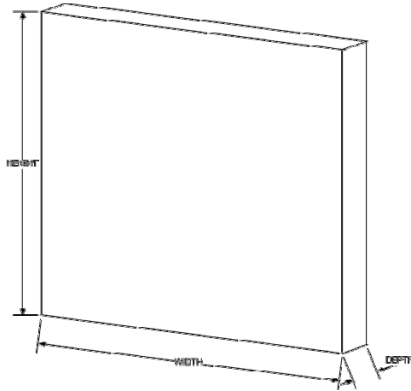
² Accuracy using two SASL’s mounted 30’ apart, 11’ high’ covering the same area.

³ Calibrated power level settable in firmware.

DATASHEET – ITCS-A-102

Mechanical Specifications

Min Max Units



Height		81 (32)	cm (in)
Width		81 (32)	cm (in)
Depth		20 (8)	cm (in)
Weight		23 (50)	kg (lbs)

Installation requirement: The antenna must be fixed and not allowed to move after installation. See User’s Manual for further instructions.

Environmental Specifications

	Min	Max	Units
Operating Environment	Indoor industrial factory use.		
Humidity Range (non-condensing)	5	85	%RH
Temperature Range (operating)	0 (32)	55(131)	°C (°F)
Temperature Range (non-operating)	-40(-40)	85(185)	°C (°F)
Temperature Drift before Recalibration ⁴	-10(-18)	10(18)	°C (°F)
Shock (operating)		3	g
Shock (non-operating)		3	g

Regulatory Certifications

- FCC Part 15 at system level
- Subpart B EMC
- ETSI 302-208, CE

⁴ This system is calibrated at nominal room temperature. Should the temperature exceed this limit, location errors may be out of tolerance. The system may need to be recalibrated at the new nominal temperature.