**(*)  H: dimension along controlled area vertical axis (controlled height)
L: dimension along the axis orthogonal to controlled height

**February 2009**

**INSTRUCTION MANUAL**

**AS1 trimmer**

**AREA sensor™**

**CONTROLS**

**OUT LED on receiver (RX)**

The yellow LED ON indicates the presence of the object into controlled area.

**POWER ON LED on receiver (RX)**
The green LED ON indicates the correct device functioning.
The fast blinking of the green LED indicates a critical device alignment. Please refer to “DIAGNOSTICS” paragraph for other indications.

**POWER ON LED on emitter (TX)**
The green LED ON indicates the correct device functioning. Please refer to “DIAGNOSTICS” paragraph for other indications.

**INSTALLATION MODE**

- Align the two receiver (RX) and emitter (TX) units, verifying that their distance is inside the device operating distance, in a parallel manner placing the sensitive sides one in front of the other, with the connectors oriented on the same side. The critical alignment of the unit will be signified by the fast blinking of the green receiver LED.

- Mount the two receiver and emitter units on rigid supports which are not subject to strong vibrations, using specific fixing brackets and/or the holes present on the device body.

**Precautions to respect when choosing and installing the device**

- Choose the device according to the minimum object to detect and the maximum controlled area requested.

- In agro-industrial applications, the compatibility of light grid housing material and any chemical agents used in the production process has to be verified with the assistance of the DATALOGIC technical sales support department.

- The AREAss™ light grids are NOT safety devices, and so MUST NOT be used in the safety control of the machines where installed.

- Mount the two receiver and emitter units on rigid supports which are not subject to strong vibrations, using specific fixing brackets and/or the holes present on the device body.

- Avoid installation near very intense and/or blinking light sources, in particular near to the receiver unit.

- The presence of smoke, fog and suspended dust in the working environment can cause scattering reflections able to compromise object detection inside the controlled area.

- Strong and frequent temperature variations, with very low peak temperatures, can destroy the optical and electrical components of the device.

- Reflecting surfaces near the luminous beam of the AREAss™ device (above, under or lateral) can cause passive reflections able to compromise object detection inside the controlled area.

- If different devices have to be installed in adjacent areas, the emitter of one unit must not interfere with the receiver of the other unit.

**DIAGNOSTICS**

General information relative to object detection and measurement:

- For a correct object detection and/or measurement, the object has to pass completely through the controlled area. Testing the correct detection before beginning the process is suggested. The resolution is non uniform inside the entire controlled area. For example the resolution in the AS1-HR model depends on the scanning program chosen.

**FUNCTIONING AND PERFORMANCES**

- The beam interruption due to the passage of an object inside the controlled area causes the closing of the switching output. The device can detect negligible, shiny, cards, tapes, folds with a reduced thickness (reaching dimensions of only 0.2 mm) and spherical objects with a minimum diameter of 6 mm, depending on the scanning program chosen and the position of the object within the controlled area. In particular, the switching output is always activated when at least one beam is obstructed. The resolution value is signified by the yellow receiver LED that turns on.

- The device presents inputs (both on TX and RX units) that consent the set of the resolution and response time. Low response times correspond to worse resolutions or vice versa.

- The device does not require calibration; periodical checks of the resolution and/or measurements are however suggested. The blinking of the yellow receiver LED signifies the critical alignment of the unit and/or the functioning outside or near the maximum operating distance. In optimal conditions the LED remains off continuously (uninterrupted condition).

- The two units are synchronised via optical signal. As shown in the picture above, the optical involved in the synchronisation process is the one closest to the top end cap. To ensure a correct use of the device it is necessary that the portion of controlled area associated with this optic is not obscured.

- The emitters are equipped with a trimming whick that let user change the emission power. The operating distance increases rotating the trimming clockwise. The emission power reduction it useful to decrease passive reflections when the maximum operating distance is not required. A rotation limited to 280°. Do not apply a torque greater than 30°.

- With the trimming clockwise to the limit (minimum emission), then align RX and TX at the required operating distance (LED OUT off); decrease emission power rotating the trimmer counter clockwise until the output switches (LED OUT off) or the limit is reached (minimum emission). In the first case; rotate the trimmer clockwise until the output switches again and LED OUT remains off.

**EMISSION POWER REGULATION**

- Switching output (ON and OFF) is included on the receiver controlled area.

- Output saturation voltage:

**TECHNICAL DATA**

- Power supply: 24 Vdc ±10%

**PRODUCT WITH FIXING BRACKET**

**EMITTER UNIT**

**POWER ON LED**

- Device is not powered.

**NOT USED**

- **Normal functioning of emission unit**: Device is powered. - Switch OFF and switch ON the device, If condition persists, contact Datalogic.

- **Unit malfunctioning**: If condition persists, contact Datalogic.

**SELD_TXI**

- **Switching OFF and switch ON the device**: If condition persists, contact Datalogic.

**SELD_RXI**

- **Switching OFF and switch ON**: If condition persists, contact Datalogic.

**RECEIVER UNIT**

- **Switching output**: The output is included on the controlled area.

- **Switching input**: The output is included on the controlled area.

- **Fast blinking**: Critical alignment of the unit with a minimum functioning closed to maximum operating distance.

- **Slow blinking**: Wrong connections and/or malfunctioning of the unit.

- **POW ON LED**: Device is not powered.

**STANDARD CONNECTIONS**

- Shielded cables are not foreseen in the standard connection.

**SCANNING PROGRAMS (only AS1-LD-HR-010-P)**

- The AS1-HR model presents inputs for the selection of the scanning program (SEL_RX; SEL_TXI).

- The selection is made connecting the inputs to 0V or to +24Vdc. A different scanning program cannot be activated during device functioning.

- According to the combination of the inputs selected, the response time or resolution can be preferred, as described in the following table. The standard configuration (SEL_RX and SEL_TXI floating inputs) corresponds to the lower resolution and highest response time.

**DIMENSIONS**

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