A-Gage™ High-Resolution MINI-ARRAY™ Measuring Light Curtain
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- 2,5 mm resolution capability
- Light curtain available in 12 heights (163 … 1951 mm)
- Range up to 1,8 m
- Micro processor control unit with RS232 interface
- Two independent programmable discrete or analogue outputs
- Windows based configuration software for PC
- High-speed scanning modes for height and width measurement
- Serial communication with host allows detailed analysis
- Status indicators on emitter, receiver and control module

A-Gage™ High-Resolution MINI-ARRAY™ Measuring Light Curtain

The High-Resolution MINI-ARRAY measuring light curtain is ideal for applications such as accurate on-the-fly product measuring and profiling, edge and center guiding, loop tensioning control and similar uses.

Components

A system consists of five components: an emitter, a receiver, a controller and 2 interconnection cables. In addition, supplied configuration software is used with the user’s PC to configure the system. Emitter and receiver each have two built-in columns of optical elements (infrared LED for the emitters, phototransistors for the receivers). The columns are staggered from each other by 2,5 mm and separated by 7,5 mm. This allows reliable detection of a cylindrical object with diameter 2,5 mm and length 12,5 mm.

The array height ranges from 160 to 1950 mm, in 160 mm increments. The controller is available in four different output configurations: two analogue output models (with two 4-20 mA or 0-10 V outputs, plus an additional NPN alarm output) and two discrete output models (with two PNP or NPN outputs). Emitter and receiver are wired in parallel to the controller using shielded twisted pair cables.

Scan analysis modes

The High-Resolution MINI-ARRAY has from 64 beams, for the 160 mm model, to 768 for the 1900 mm array. The controller can be configured to analyze the scan based on the following criteria:

- **FBB**: from the connector end, the location of the first beam that is blocked.
- **LBB**: from the connector end, the location of the last beam that is blocked.
- **TBB**: the total number of beams that are blocked.
- **MBB**: the middle beam blocked, calculated from the average between the first and the last beam blocked.
- **FBM**: the first beam that is cleared.
- **LBM**: the last beam that is cleared.
- **TBM**: the total number of beams that are cleared.
- **CBB**: the largest number of consecutively blocked beams.
- **CBM**: the largest number of consecutively cleared beams.
- **TRN**: the number of transitions from blocked to clear and from clear to blocked (useful for counting objects).

Scan control

For most applications, the High-Resolution MINI-ARRAY will scan continuously, updating analogue and/or digital outputs. The scan can also be controlled via a gate input on the controller. If this mode is selected, scanning only occurs when the gating input is between +15 V and +30 V. A host (PC or PLC) also can control scanning via the serial interface. The controller can provide all scan data to the host for further analysis.

Box profiling

Configuration software

The configuration software can be installed on any PC that runs Windows. The software allows the configuration of the controller. These configuration settings can be stored on the user’s PC. Via a serial RS232 link, the settings can be up- or downloaded to/from the controller. The configuration software also allows the on-line monitoring of the status of all beams and the configuration of blanking zones.
Wave length
IR (infrared) 880 nm

Resolution
Minimum object detection size 2,5 mm
Scan time (straight scanning) 70 µs per light beam plus 1 ms processing time per scan

Supply
Supply voltage 16...30 VDC
No load current ≤ 1,2 A
Delay upon power up 5 s

Protection
short-circuit

Output
continuous load current ≤ 150 mA (switched output)
Load impedance ≥ 1,5 kΩ (analog output)

Material
Housing aluminium (light curtain)
polycarbonate (controller)
acrylic

Lens
Protection class (IEC 529/DIN 40050-9) IP65 (light curtain)
IP20 (controller)

Temperature range 0…+50 °C

Indicator LEDs
Red (emitter) power-on
Red (receiver) object detected or light curtain not aligned
Green (receiver) proper alignment
Green + yellow (receiver) marginal alignment

Controller LEDs
Red Output analog outputs or discrete output 1 is energised
Red Alarm discrete output 2 is energised
Red Gate GATE input energised
Green Alignment proper alignment
Diagnostic Indicator identifies system errors and/or status

Configuration software window

Accessories
Cable (2 per system)
QDC-515C (4,6 m) 30 374 42
QDC-525C (7,6 m) 30 374 43
QDC-550C (15,2 m) 30 374 98

Configuration software included

Mounting stand
MSA… on request
## A-Gage™ High-Resolution MINI-ARRAY™
### Measuring Light Curtain

<table>
<thead>
<tr>
<th>Emitter/receiver</th>
<th>Range [mm]</th>
<th>Housing length L [mm]*</th>
<th>Array height Y [mm]*</th>
<th>Total beams</th>
<th>Connection mode</th>
<th>Type</th>
<th>Ident number</th>
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<th>Controllers</th>
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* Refer to dimension drawing
** Configuration only via RS232

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**IMPORTANT SAFETY WARNING**

These sensors do NOT include the self-checking redundant circuitry necessary to allow their use in personnel safety applications. A sensor failure or malfunction can result in either an energised or de-energised output condition. These products should not be used as sensing devices for personnel safety.