Model 300 Scanner

Technical Specifications

Programmable Subcomponent Ideal for Automated Tracking Systems

Flash memory permits in-field software upgrades and customization.

Direct-memory access stores up to 16k of data, permitting every scan to be processed, preventing good scans from being lost.

Open, user-programmable firmware simplifies application-specific modifications, including gate parameters, symbologies, communications, transmissions, buffers and outputs.

Long life brushless precision motor with three-year limited warranty.

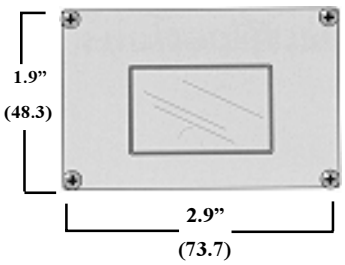
Co-axial oversized mirror of gold-plated aluminum, diamond machined collects maximum light for increased depth of field giving you the most flexible positioning options.

Industrial Scan, Inc.
Optimizing Bar Code Scanning Solutions

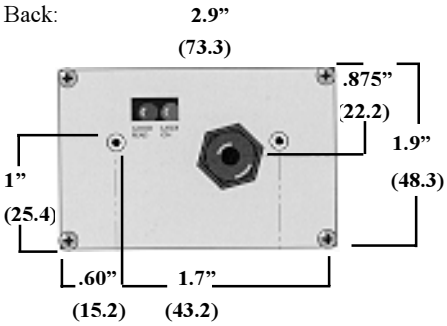
MECHANICAL ENVELOPE/MOUNTING

Measurements in inches (centimeters)

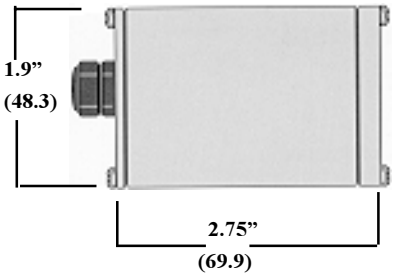
Front:



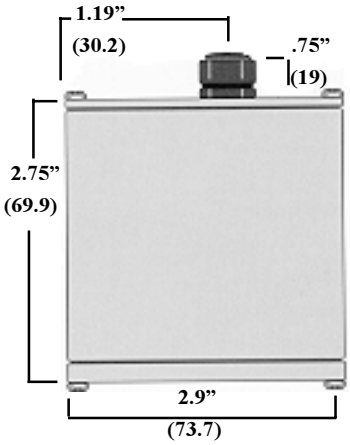
Back:



Side:



Top:

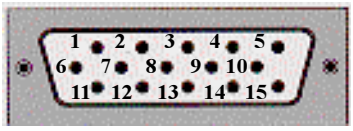


Enclosure:
Extruded aluminum, painted

Weight:
11.5 oz. max. including connector and cable

ELECTRICAL TERMINATION

15 Pin cable or sub-d wired as follows:



1	Ground
2	RS232TD
3	RS232RX
4	Output 1 - Good Read
5	Output 1 - No Rea
6	RS422+TX
7	RS422+RX
8	RS422-RX
9	RS422-TX
10	Output 3 - Good Compare
11	Output 4 - No Compare
12	Ground (5v dc power)
13	Input 1 - Spare
14	Input 2 - Spare
15	5v DC

+5vdc@500ma

ENVIRONMENTAL

Enclosure:
Aluminum extrusion, NEMA 12 Rating

Operating Temperature
32° to 104° Farenheit

Relative Humidity:
0 -95% noncondensing

OPTICAL CHARACTERISTICS

Illumination:
5mw solid state laser diode

Wavelength:
670nm (nominal)

Scan Pattern:
Line or raster

Scan Element:
Rotating polygon (8 sided) mirror

Scan Speed:
500 scans/second typical

Read Range:
1 to 24 inches - label dependent

Depth of Field:
Dependent of focal point, spot size and narrow element bar width

LABEL ORIENTATION

Scan Angle:
60 degrees

Max. Angle
Determined by aspectt ratio of label

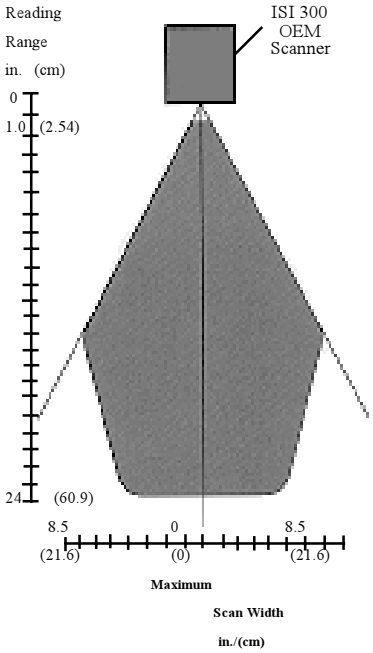
Scan Pitch:
45 degrees

Pitch

Scan Skew:
45 degrees

Skew

MODEL 300 SCANNING FIELD



READ RANGE AND SCAN WIDTH

Narrow Bar Width	Depth of Field	Max. Scan Width
.005	3 - 5.5	4.5
.0075	3 - 6.0	4.5
.010	1.5 - 7.5	6.25
.012	1.5 - 7.5	6.25
.020	1.5 - 8.0	7.0
.025	1.5 - 10.0	8.5

This chart is based on a standard focal point of 5 inches with an 8 mil. spot size using grade A type labels. Actual depth of field, scan widths and focal points will be label dependent besed on label quality and focal points set to customer requirements by the factory.

CALCULATE NUMBER OF SCANS

To ensure reliable scanning, we recommend that you apply a minimum of three scans to each label.

Use the formulas below to calculate the number of scans that your label will receive.

Ladder Calculation:

$$\left(\frac{WH}{V} \times F\right) - 3 = \text{number of complete scans}$$

Where WH = Label Height, V = Label Speed and F = Scan Rate

Example 1: *WH = 1 inch*
V = 10 inches per second
F = 1000 scans per second

$$\left(\frac{1}{10} \times 1000\right) - 3 = 97 \text{ complete scans}$$

Picket Fence Calculation:

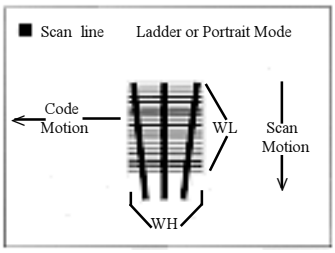
$$\left(\frac{WS - WL}{V} \times F\right) - 3 = \text{number of complete scans}$$

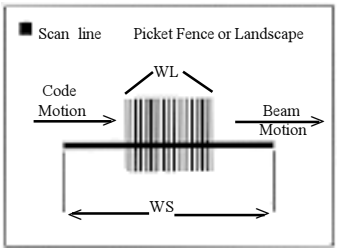
Where WS = Scan Width, WL = Label Length, V = Label Speed and F = Scan Rate

Example 2: *WL = 1 inch*
V = 10 inches per second
WS = 8 inches
F = 1000 scans per second

$$\left(\frac{8-2}{10} \times 1000\right) - 3 = 97 \text{ complete scans}$$

Label Orientation:





OPERATING CHARACTERISTICS

Standard user-defined:

Code Types:
- Codabar
- Code 3 of 9
- Interleaved 2 of 5
- EAN/UPC
- Code 128
- Code 93
- Pharmacode

Gate Parameters:
Two Inputs:
1. Gate Input - pkg. detect/laser tracking
2. Spare Input - external compare mode

Four Outputs:
1. Good Read
2. No Read
3. Good Compare
4. No Compare

Active high or low set in 5msec.increments

Communications:
- RS 232
- RS 422 - 4 wire
- RS 485 - Multi-Drop
- Baud Rate -300 to 19.2 k
- Data - 7 or 8 bits
- Parity - None, Even, Odd
- Stop - 1 or 2

Compare Buffers:
1-20 (127 digits/characters max.)

CERTIFICATIONS

Laser Classification:
DHHS Class II
UL and CE marks submitted

WARRANTY

Parts and Labor: One year
Motor: 3 year limited

STANDARD FEATURES

Motor:
Long life brushless motor - 3 year limted warranty

Mirror:
Diamond machined, gold plated aluminum

Coaxial Optics:
Maximum ease of set-up

Detector Board:
Oversized precision optics, ambient light & polarizing filters

16k DMA:
Free mircoporcessor to decode every scan

Flash Memory:
Allows in-field upgrades

Aluminum Case:
Max EMI/RFI protection

FACTORY OPTIONS

Scan Speed:
Adjustable from 200 to 1000 scans/second

Focal Point:
Adjustable for spot size and narrow element

Raster Pattern:
Standard .25" at 5", or machined to specific application

Electrical Termination:
Standard 15 pin D subminiature, or as required

Light Source:
Standard 670nm, optional 780nm

Symbologies:
Specials available depending on qty.

Envelope:
Custom configurations for OEM only

Environmental:
Standard NEMA 12, upgradable to NEMA 4