



## APPLICATIONS

- Automated warehousing
- Reading on forklift trucks
- Picking systems
- Automated shop floor

# ADVANTAGES

- Extended reading range from 250 to 2000 mm thanks to the "2-step" mechanically adjustable focus system
- DIGITECH™ technology permits full software control over signal processing parameters. Scanner setup can therefore be optimized simply loading optimized software recipes, thus enabling excellent performance in all reading conditions
- ACR4<sup>™</sup> reconstruction technology increases the maximum tilt angle and overall read rate on damaged barcodes
- Available with integrated software programmable Oscillating Mirror and built-in connectivity to Ethernet, Profibus and DeviceNet
- Easy and simple configuration thanks to Genius™ multilanguage software tool

# 

## HIGHLIGHTS

- Good reading performance on very low contrast bar codes
- Focus adjustable optics
- Reading range from 250 to 2000mm
  ACR4<sup>™</sup> reconstruction technology improves reading of damaged barcodes
- DIGITECH™ technology enables
- excellent reading performance • Linear and integrated Oscillating Mirror versions
- Built-in connectivity to Ethernet /
  Profibus / DeviceNet
- Display and keyboard for scanner monitoring and diagnostics

## **GENERAL DESCRIPTION**

DS6300 scanner is designed to offer a complete modular solution in terms of reading performance, built-in connectivity, ease of use and maintenance. With DS6300, Datalogic Automation provides mid-range industrial bar code readers with top class performance.

DS6300 is therefore the optimal solution for a wide range of manufacturing applications both in the automated shop floor and in the automated warehousing.

DS6300 features a practical display with keyboard that increases the scanner's ease of use by showing barcode data read (local echo), statistics and diagnostic information. Moreover, it offers built-in connectivity to Ethernet, DeviceNet and Profibus networks.

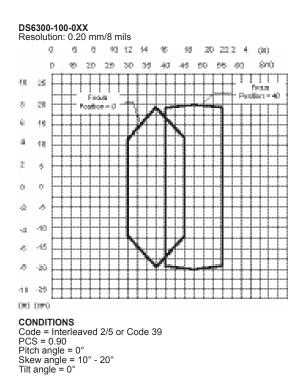


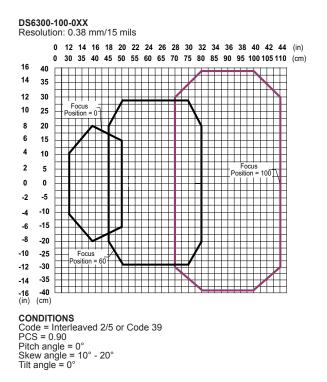






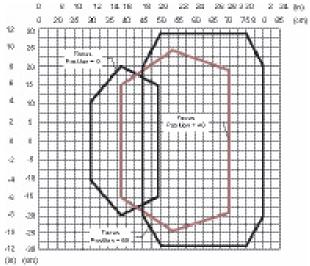
## **READING DIAGRAMS**





## DS6300-100-0XX

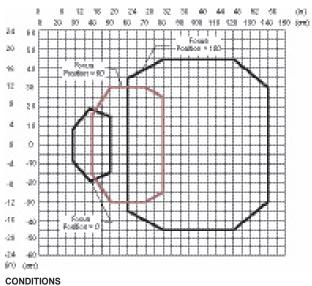
#### Resolution: 0.30 mm/12 mils



#### CONDITIONS

Code = Interleaved 2/5 or Code 39 PCS = 0.90Pitch angle =  $0^{\circ}$ Skew angle =  $10^{\circ} - 20^{\circ}$ Tilt angle =  $0^{\circ}$ 

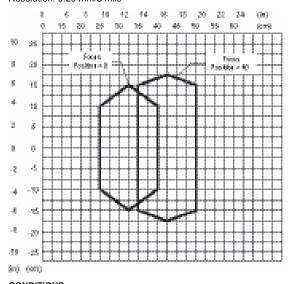
#### DS6300-100-0XX Resolution: 0.50 mm/20 mils



Code = Interleaved 2/5 or Code 39 PCS = 0.90Pitch angle =  $0^{\circ}$ Skew angle =  $10^{\circ} - 20^{\circ}$ Tilt angle =  $0^{\circ}$ 

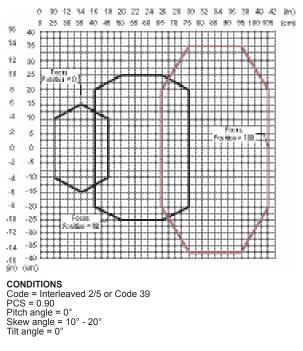
## **READING DIAGRAMS**

#### DS6300-105-0XX (Oscillating Mirror) Resolution: 0.20 mm/8 mils

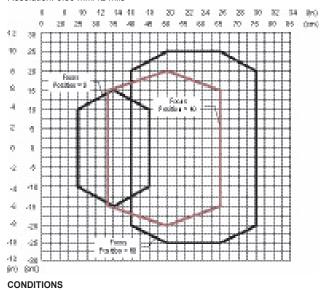


CONDITIONS Code = Interleaved 2/5 or Code 39 PCS = 0.90Pitch angle =  $0^{\circ}$ Skew angle =  $10^{\circ} - 20^{\circ}$ Tilt angle = 0

#### DS6300-105-0XX (Oscillating Mirror) Resolution: 0.38 mm/15 mils

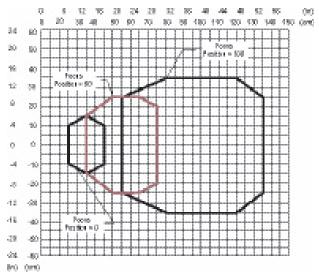


#### DS6300-105-0XX (Oscillating Mirror) Resolution: 0.30 mm/12 mils



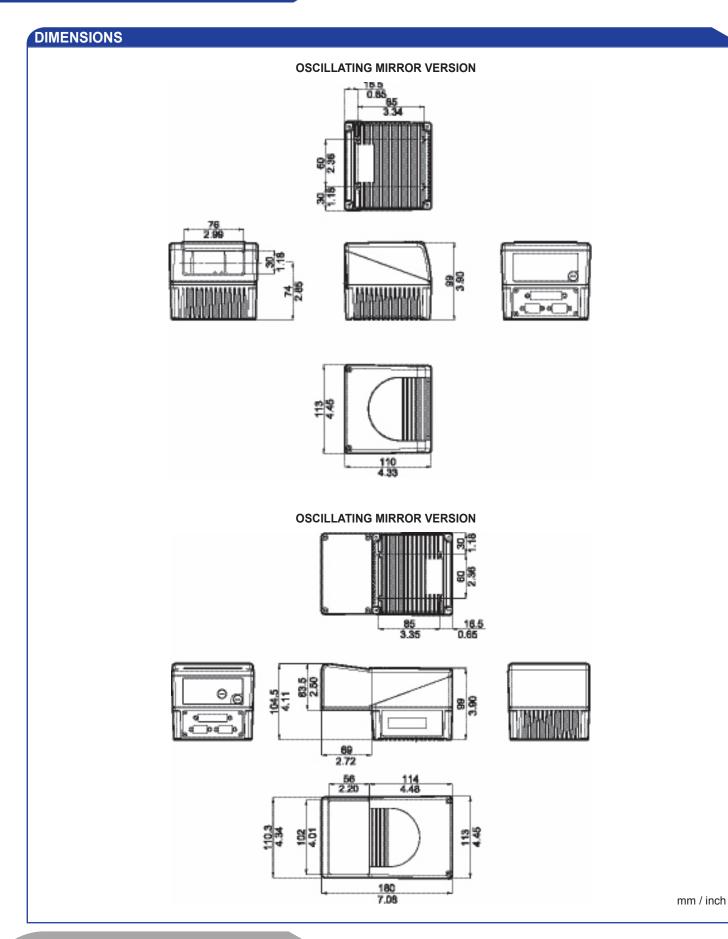
Code = Interleaved 2/5 or Code 39 PCS = 0.90Pitch angle =  $0^{\circ}$ Skew angle =  $10^{\circ} - 20^{\circ}$ Tilt angle =  $0^{\circ}$ 

#### DS6300-105-0XX (Oscillating Mirror) Resolution: 0.50 mm/20 mils



 $\label{eq:conditions} \begin{array}{l} \mbox{CONDITIONS} \\ \mbox{Code} = \mbox{Interleaved 2/5 or Code 39} \\ \mbox{PCS} = 0.90 \\ \mbox{Pitch angle} = 0^{\circ} \\ \mbox{Skew angle} = 10^{\circ} - 20^{\circ} \\ \mbox{Tilt angle} = 0^{\circ} \end{array}$ 



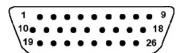


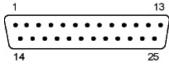
## **ELECTRICAL CONNECTIONS**

All the connectors available for each DS6300 model are the following:

| SCANNER MODEL | CONNECTORS                                                                                                          |  |
|---------------|---------------------------------------------------------------------------------------------------------------------|--|
| Master/Slave  | 25-pin male serial interface and I/O connector<br>9-pin male Lonworks connector*<br>9-pin female Lonworks connector |  |
| Ethernet      | 26-pin male serial interface and I/O connector<br>9-pin female Lonworks connector<br>RJ45 modular connector         |  |

The DS6300 Master/Slave models are equipped with a 25-pin male D-sub connector for connection to the host computer, power supply and input/output signals. The DS6300 Ethernet models adopt a 26-pin male connector instead of the 25-pin one.





26-pin Connector

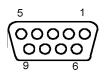
25-pin Connector

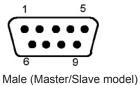
| 25-PIN D-SUB MALE CONNECTOR PINOUT |                                           |               |                              |                                                        |  |
|------------------------------------|-------------------------------------------|---------------|------------------------------|--------------------------------------------------------|--|
| Pin                                | Name                                      | Name          |                              | Function                                               |  |
| 4                                  | CLIASSIS                                  | CHASSIS       |                              | ted to GND                                             |  |
| 1                                  | CHASSIS                                   |               |                              | Cable connected to chassis                             |  |
| 20                                 | RXAUX                                     |               | Receive data of auxiliary R  | Receive data of auxiliary RS232 (referred to GND)      |  |
| 21                                 | TXAUX                                     |               | Transmit data of auxiliary F | Transmit data of auxiliary RS232 (referred to GND)     |  |
| 8                                  | OUT 1+                                    |               | Configurable digital output  | Configurable digital output 1 - positive pin           |  |
| 22                                 | OUT 1-                                    |               | Configurable digital output  | Configurable digital output 1 - negative pin           |  |
| 11                                 | OUT 2+                                    |               | Configurable digital output  | Configurable digital output 2 - positive pin           |  |
| 12                                 | OUT 2-                                    |               | Configurable digital output  | Configurable digital output 2 - negative pin           |  |
| 16                                 | OUT 3A                                    |               | Configurable digital output  | Configurable digital output 3 - polarity insensitive   |  |
| 17                                 | OUT 3B                                    | OUT 3B        |                              | Configurable digital output 3 - polarity insensitive   |  |
| 18                                 | EXT_TRIG/PS A                             | EXT_TRIG/PS A |                              | External trigger (polarity insensitive) for PS         |  |
| 19                                 | EXT_TRIG/PS B                             | EXT_TRIG/PS B |                              | External trigger (polarity insensitive) for PS         |  |
| 6                                  | IN 2/ENC A                                | IN 2/ENC A    |                              | Input signal 2 (polarity insensitive) for Encoder      |  |
| 10                                 | IN 2/ENC B                                | IN 2/ENC B    |                              | Input signal 2 (polarity insensitive) for Encoder      |  |
| 14                                 | IN 3A                                     | IN 3A         |                              | Input signal 3 (polarity insensitive)                  |  |
| 15                                 | IN 4A                                     | IN 4A         |                              | Input signal 4 (polarity insensitive)                  |  |
| 24                                 | IN_REF                                    | IN_REF        |                              | Common reference of IN3 and IN4 (polarity insensitive) |  |
| 9,13                               | VS                                        | VS            |                              | Supply voltage - positive pin                          |  |
| 23,25,26                           | GND                                       | GND           |                              | Supply voltage - negative pin                          |  |
| Pin                                | RS232                                     | RS232         | RS485 Full-Duplex            | RS485 Half-Duplex                                      |  |
| 2                                  |                                           | TX            | TX485 +                      | RTX485 +                                               |  |
| 3                                  |                                           | RX            | * RX485 +                    |                                                        |  |
| 4                                  | Main Interface Signals<br>(SW Selectable) | RTS           | TX485 -                      | RTX485 -                                               |  |
| 5                                  |                                           | CTS           | * RX485 -                    |                                                        |  |
| 7                                  |                                           | GND_ISO       | GND_ISO                      | GND_ISO                                                |  |

\* Do not leave floating, see DS6300 Reference Manual for connection details.



# **ELECTRICAL CONNECTIONS**





Female (all models)

9-pin Local Lonworks Connectors

9-pin Local Lonworks Connectors

| 9-PIN LONWORKS CONNECTOR PINOUT |             |                                                           |
|---------------------------------|-------------|-----------------------------------------------------------|
| Pin                             | Name        | Function                                                  |
| 1                               | CHASSIS     | Cable shield internally connected by capacitor to chassis |
| 2                               | GND         | Supply voltage - positive pin                             |
| 6                               | VS_I/O      | Supply voltage - negative pin                             |
| 3                               | REF_I/O     | Supply voltage of I/O circuit                             |
| 4                               | SYS_ENC_I/O | Reference voltage of I/O circuit                          |
| 5                               | SYS_I/O     | System signal                                             |
| 7                               | LONA        | System signal                                             |
| 8                               | LON B       | Lonworks line (polarity insensitive)                      |

In DS6300 Ethernet models a RJ45 Modular Jack is provided for Ethernet connection. This interface and the connector pinout are IEEE 802.3 10 BaseT and IEEE 802.3u 100 BaseTX compliant.



RJ45 Modular Jack

| RJ45 MODULAR JACK PINOUT |      |                      |
|--------------------------|------|----------------------|
| Pin                      | Name | Function             |
| 1                        | TX + | Transmitted data (+) |
| 2                        | TX - | Transmitted data (-) |
| 3                        | RX + | Received data (+)    |
| 6                        | RX - | Received data (-)    |
| 4,5,7,8                  | NC   | Not connected        |

# MODELS AND ACCESSORIES

| MODELS    |                                                  |  |
|-----------|--------------------------------------------------|--|
| Order No. | Description                                      |  |
| 931351010 | DS6300-100-010 ADJ FOCUS, LINEAR, M/S            |  |
| 931351020 | DS6300-100-011 ADJ FOCUS, LINEAR, PROFIBUS       |  |
| 931351030 | DS6300-100-012 ADJ FOCUS, LINEAR, ETHERNET       |  |
| 931351040 | DS6300-100-015 ADJ FOCUS, LINEAR, DEVICENET      |  |
| 931351060 | DS6300-105-010 ADJ FOCUS, OSC. MIRROR, M/S       |  |
| 931351070 | DS6300-105-011 ADJ FOCUS, OSC. MIRROR, PROFIBUS  |  |
| 931351080 | DS6300-105-012 ADJ FOCUS, OSC. MIRROR, ETHERNET  |  |
| 931351090 | DS6300-105-015 ADJ FOCUS, OSC. MIRROR, DEVICENET |  |

| ACCESSORIES |                                   |  |
|-------------|-----------------------------------|--|
| Order No.   | Description                       |  |
| 93A201100   | GFC-60 90° MIRROR                 |  |
| 93A201102   | GFC-600 90° MIRROR CLOSE DISTANCE |  |
| 93ACC1730   | GFX-60 X-PATTERN MIRROR           |  |
| 93ACC1721   | FBK-6000 FAST BRACKET KIT (2 PCS) |  |

# TECHNICAL DATA

|                                                                   | DS6300-100-01X                                                                   | DS6300-105-01X                                         |  |  |
|-------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------|--|--|
| DIMENSIONS                                                        | 110 x 113 x 99 mm (4.33 x 4.45 x 3.9 in)                                         | 113 x 180 x 104.5 mm (4.45 x 7.08 x 4.11 in)           |  |  |
| WEIGHT                                                            | 1.5 kg. (3.3 lb)                                                                 | 2.0 kg. (4.4 lb)                                       |  |  |
| CASE MATERIAL                                                     | Aluminum                                                                         |                                                        |  |  |
| OPERATING TEMPERATURE                                             | 0 to 40 °C (32                                                                   | 2 to 104 °F),                                          |  |  |
| STORAGE TEMPERATURE                                               | -20 to 70 °C (                                                                   | -4 to 158 °F)                                          |  |  |
| HUMIDITY                                                          | 90% non c                                                                        | ondensing                                              |  |  |
| VIBRATION RESISTANCE                                              | IEC 68-2-6 test FC 1.5mm; 10 t                                                   | to 55 Hz; 2 hours on each axis                         |  |  |
| SHOCK RESISTANCE                                                  | IEC 68-2-27 test EA 30 G; 11                                                     | IEC 68-2-27 test EA 30 G; 11 ms; 3 shocks on each axis |  |  |
| PROTECTION CLASS                                                  | IP64 for standard models; IP65 on request                                        |                                                        |  |  |
| LIGHT SOURCE                                                      | Visible laser diode (630 to 680 nm)                                              |                                                        |  |  |
| SCANNING SPEED                                                    | 600 to 1200 scan/s SW programmable                                               |                                                        |  |  |
| RESOLUTION                                                        | Down to 0.20 mm (8 mils)                                                         |                                                        |  |  |
| READABLE SYMBOLOGIES                                              | Code 2/5, Code39, Code93, Code128, EAN/UPC, EAN128, Codabar, Pharmacode, ISBN128 |                                                        |  |  |
| MULTILABEL READING                                                | Up to 10 different symbologies during the same reading phase                     |                                                        |  |  |
|                                                                   | Main Port: RS232/RS485 up to 115.2 Kbit/s                                        |                                                        |  |  |
| COMMUNICATION INTERFACES Auxiliary Port: RS232 up to 115.2 Kbit/s |                                                                                  | 2 up to 115.2 Kbit/s                                   |  |  |
| OTHER AVAILABLE INTERFACES                                        | Lonworks (Master/Slave), Ethernet, Profibus, DeviceNet                           |                                                        |  |  |
| DIGITAL INPUTS                                                    | Four SW programmable, optocoupled, NPN/PNP                                       |                                                        |  |  |
| DIGITAL OUTPUTS                                                   | Three SW programmable, optocoupled, event driven                                 |                                                        |  |  |
| DISPLAY & KEYPAD                                                  | LCD 16 x 2 characters & 3 keys                                                   |                                                        |  |  |
| LED INDICATORS                                                    | Power On, Phase On, Data Tx                                                      |                                                        |  |  |
|                                                                   | Windows™ based SW (Genius                                                        | s™) via serial or Ethernet link                        |  |  |
| DEVICE PROGRAMMING                                                | Serial Host Mode Programming sequences                                           |                                                        |  |  |
| OPERATING MODES                                                   | 'On-line', 'Serial On-line', 'Automatic', 'Continuous', 'Test'                   |                                                        |  |  |
| LASER CLASSIFICATION                                              | Class 2 - EN60825-1; Class II - CDRH                                             |                                                        |  |  |
| LASER CONTROL                                                     | Safety system to turn laser off in cases of motor slowdown or failure            |                                                        |  |  |
| POWER SUPPLY                                                      | 15 to 30 VDC                                                                     |                                                        |  |  |
| POWER CONSUMPTION                                                 | 15 W typical, 20 W max                                                           |                                                        |  |  |