



IDENTIFICATION

APPLICATIONS

- Postal/Courier parcel sorting and tracking
- Automated warehousing identification systems
- Airport baggage sorting systems
- Cargo applications
- Loading/unloading systems

ADVANTAGES

- Easily and rapidly configured thanks to Datalogic GENIUS™ (intuitive and multilanguage configuration program)
- DIGITECH™ Digitech technology permits full SW control over signal processing parameters. Scanner setup can therefore be optimized quite simply by loading the right SW recipe, thus enabling excellent performance in all reading conditions
- A simplified replacement procedure enables reduced down time due to automatic SW configuration restore in the new device
- Unbeatable reading performance and reliability on fast moving conveyor systems are ensured by ASTRA™ electronic focusing system (no mechanical moving parts)
- PackTrack™ function reduces the minimum object gap while enabling higher system throughput
- Fully compatible with DX8200A, 6000 series (DS6300, DS6400) and SC6000 industrial controller

HIGHLIGHTS

- Reading performance benchmark
- ACR4™ code reconstruction algorithm
- ASTRA™ technology for the electronic focusing system
- DIGITECH™ signal processing technology
- PACKTRACK™ to minimize the gap between objects and increase system productivity
- GENIUS™ multilanguage SW for easy scanner configuration/setup
- Display and keyboard
- Built-in Ethernet TCP/IP connectivity

GENERAL DESCRIPTION

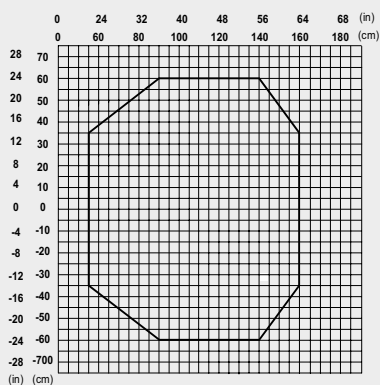
DS8100A represents the evolution of a winning concept which started in 1998: the use of state-of-the-art technology to design the best performing fixed position scanner on the market. DS8100A is based on an innovative 3-diode structure that offers an unbeatable real time depth of field.

Connectivity has been improved with the introduction of built-in Ethernet connectivity with implemented TCP-IP, Ethernet/IP and Modbus TCP protocols. A practical display with keyboard increases DS8100A ease of use by offering a simple and complete human machine interface without PC. The SW platform of the new DS8100A, based on GENIUS™ configuration program, permits 100% control of scanner functionality via SW. Moreover, DIGITECH™ technology enables excellent reading performance along the entire depth of field.

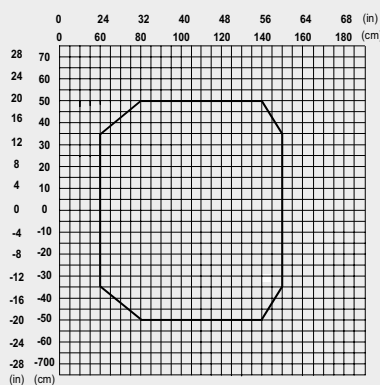


READING DIAGRAMS

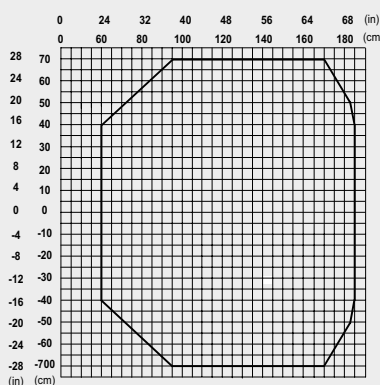
DS8100A-2X10
0.50 mm/20 mils



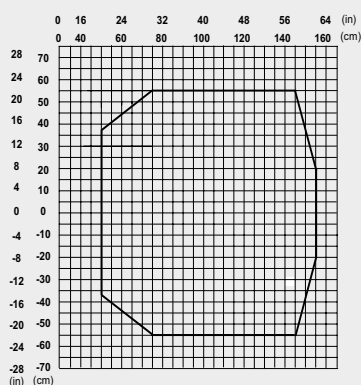
DS8100A-2X10
0.38 mm/15 mils



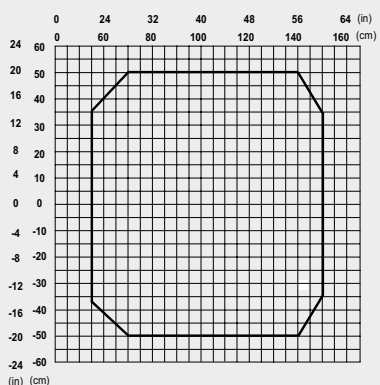
DS8100A-3X00
0.50 mm/20 mils



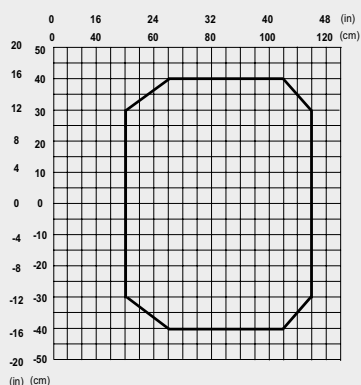
0.38 mm/15 mils



DS8100A-3X20
0.30 mm/12 mils



DS8100A-3X30
0.25 mm/10 mils



CONDITIONS

Code = Interleaved 2/5 or Code 39

PCS = 0.90

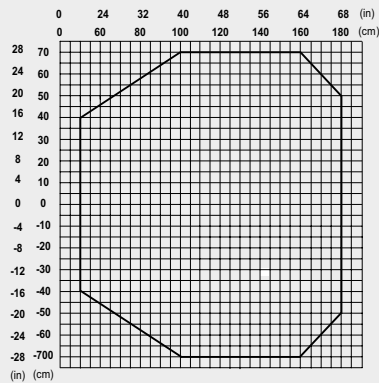
'Pitch' angle = 0°

'Skew' angle = 10°

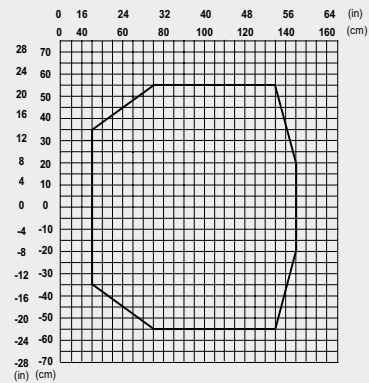
'Tilt' angle = 0°

READING DIAGRAMS

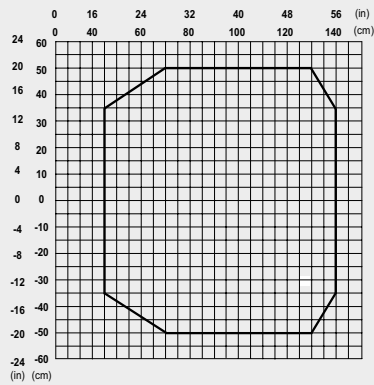
DS8100A-3X05
0.50 mm/20 mils



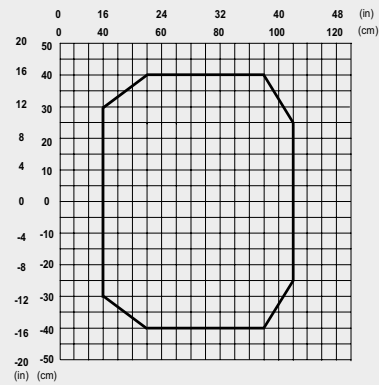
DS8100A-3X15
0.38 mm/15 mils



DS8100A-3X25
0.30 mm/12 mils

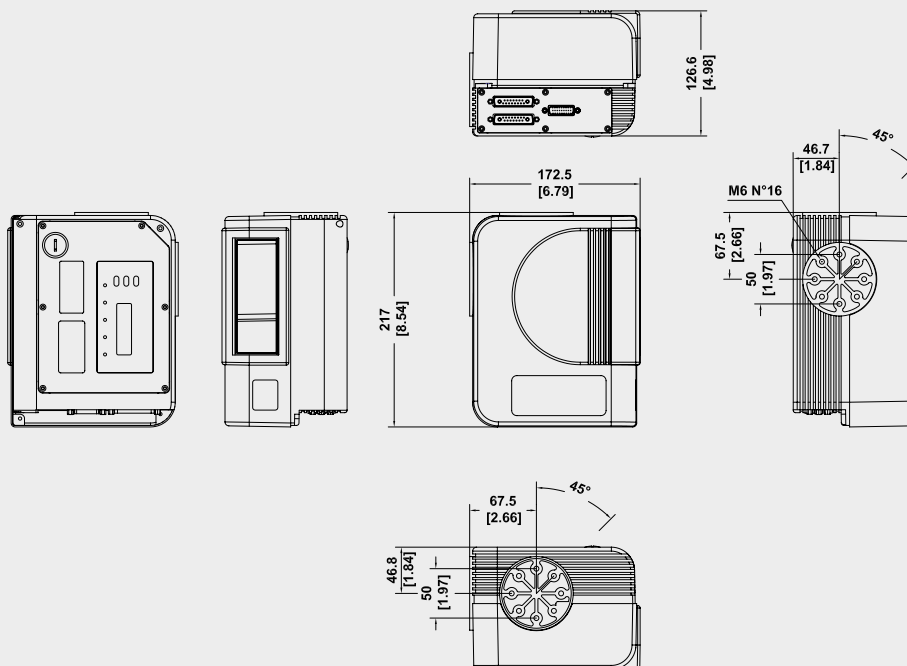


DS8100A-3X35
0.25 mm/10 mils



mm / inch

DIMENSIONS

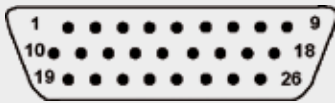


ELECTRICAL CONNECTIONS

All the connectors available for each DS8100A model are the following:

| SCANNER MODEL | CONNECTORS |
|---------------|---|
| Standard | 26-pin male serial interface and I/O connector 17-pin male Lonworks connector* 17-pin female Lonworks connector* |
| Ethernet | 26-pin male serial interface and I/O connector 17-pin male Lonworks connector* 17-pin female Lonworks connector* RJ45 Industrial modular connector |

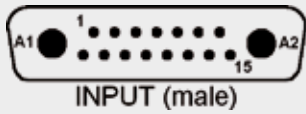
The DS8100A Standard and Fieldbus models are equipped with a 26-pin male D-sub connector for connection to the host computer, power supply and input/output signals.



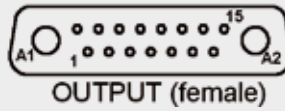
26-pin Connector

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

ELECTRICAL CONNECTIONS



scanner side
external view



Lonworks INPUT/OUTPUT Connectors

LONWORKS INPUT/OUTPUT 17-PIN CONNECTOR PINOUT

| Pin | Name | Function |
|---------|-------------|---|
| A1 | GND | supply voltage (negative pin) |
| A2 | VS | supply voltage 20 to 30 VDC (positive pin) |
| 1 | CHASSIS | Cable shield A – internally connected by capacitor to chassis |
| 3 | CHASSIS | Cable shield B – internally connected by capacitor to chassis |
| 7 | VS_I/O | Supply voltage of I/O circuit |
| 8 | LON A+ | Lonworks a line (positive pin) |
| 9 | LON A- | Lonworks a line (negative pin) |
| 10 | LON B+ | Lonworks b line (positive pin) |
| 11 | LON B- | Lonworks b line (negative pin) |
| 12 | SYS_I/O | System signal |
| 13 | SYS_ENC_I/O | System signal |
| 14 | RES | Internally connected |
| 15 | REF_I/O | Reference voltage of I/O circuit |
| 2,4,5,6 | NC | Not Connected |



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 |

TECHNICAL DATA

| | | |
|----------------------------|--|---|
| Dimensions | 215.5 x 170.5 x 126.5 mm (8.48 x 6.71 x 4.98 in) | 280 x 254 x 195 mm (11.03 x 10 x 7.68 in) |
| Weight | 5.0 Kg (176.3 oz.) | 6.4 Kg (225.7 oz.) |
| Case material | Aluminum | |
| Operating temperature | 0 to 50 °C (32 to 122 °F) | |
| Storage temperature | -20 to 70 °C (-4 to 158 °F) | |
| Humidity | 90% non condensing | |
| Vibration resistance | IEC 68-2-6 test FC 1.5mm; 10 to 55 Hz; 2 hours on each axis | |
| Shock resistance | IEC 68-2-27 test EA 30 G 11 ms; OM: 15 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 | 1000 scans/s | |
| Resolution | See diagrams | |
| Readable symbologies | 22 symbologies including 2/5 family, Code39, Code93, Code128, EAN/UPC, EAN128, ISBN128 | |
| Multilabel reading | Up to 10 different symbologies during the same reading phase | |
| Communication interfaces | Main Port: RS232/RS485 up to 115.2 Kbit/s Auxiliary Port: RS232 up to 115.2 Kbit/s | |
| Other available interfaces | Lonworks (Master/Slave), Ethernet (optional) | |
| Digital inputs | Three SW programmable and One "Encoder", optocoupled, NPN/PNP | |
| Digital outputs | Three SW programmable, optocoupled, event driven | |
| Display & keypad | LCD 16 x 2 characters & 3 keys | |
| Led indicators | 1) Power On (red) Good Read (red); 2) Trigger (yellow) TX Data (green); 3) Encoder (yellow) Network (red) | |
| Device programming | Windows™ based SW (Genius™) via serial or Ethernet link Serial Host Mode Programming sequences | |
| Operating modes | 'On-line', 'Serial On-line', 'Automatic', 'Continuous', 'PackTrack™', '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 | 20 to 30 VDC | |
| Power consumption | 20 W typical, 30 W max | |

MODELS

| ORDER NO. | DESCRIPTION |
|-----------|--|
| 932402742 | DS8100A-3030, VERY HIGH RES, LINEAR |
| 932402743 | DS8100A-3130, VERY HIGH RES, LINEAR, ETH |
| 932402744 | DS8100A-3035, VERY HIGH RES, OM |
| 932402745 | DS8100A-3135, VERY HIGH RES, OM, ETH |
| 932402746 | DS8100A-3020, HIGH RES, LINEAR |
| 932402747 | DS8100A-3120, HIGH RES, LINEAR, ETH |
| 932402748 | DS8100A-3025, HIGH RES, OM |
| 932402749 | DS8100A-3125, HIGH RES, OM, ETH |
| 932402750 | DS8100A-3010, MEDIUM RES, LINEAR |
| 932402751 | DS8100A-3110, MEDIUM RES, LINEAR, ETH |
| 932402752 | DS8100A-3015, MEDIUM RES, OM |
| 932402753 | DS8100A-3115, MEDIUM RES, OM, ETH |
| 932402754 | DS8100A-3000, LOW RES, LINEAR |
| 932402755 | DS8100A-3100, LOW RES, LINEAR, ETH |
| 932402756 | DS8100A-3005, LOW RES, OM |
| 932402757 | DS8100A-3105, LOW RES, OM, ETH |
| 932402772 | DS8100A-2010 MED RES, LIN, DOUBLE LAS |
| 932402773 | DS8100A-2110 MED RES,LIN,DOUBLE LAS,ETH |
| 932402758 | DS8100A-3002, LOW RES, LIN.,BHS |

ACCESSORIES

| ORDER NO. | DESCRIPTION |
|-----------|---|
| 93ACC1430 | ACS-81 AIR CLEANING SYSTEM |
| 93ACC1792 | BK-8200 BRACKET 15 DEG |
| 93A051298 | BT-8100 TERMINATOR 8K FAMILY |
| 93ACC1090 | BTK-8100 BUS TERMINATOR KIT (5PCS) |
| 93A051287 | BTK-8102 DOUBLE TERMINATOR KIT (2 PCS) |
| 93A051286 | BTK-8500 IP65 TERMINATOR KIT (2 PCS) |
| 93A051000 | CAB-8005 CABLE SCANNER CONTROLLER 5m |
| 93A051010 | CAB-8010 CABLE SCANNER CONTROLLER 10m |
| 93ACC1120 | CAB-8100 10 WIRES SHIELD D 9.5mm, 50m |
| 93A051020 | CAB-8101 CABLE SCANNER SCANNER 1.2m |
| 93A051030 | CAB-8102 CABLE SCANNER SCANNER 2.5m |
| 93A051040 | CAB-8105 CABLE SCANNER SCANNER 5m |
| 93A051268 | CAB-8305 POWER & TERMINATION CABLE 5 M |
| 93A051336 | CAB-8310 POWER AND BUS RETURN CABLE 10M |
| 93ACC1758 | CAB-8402 NO POWER CABLE FAM 8K 2,5m |
| 93ACC1759 | CAB-8405 NO POWER CABLE FAM 8K 5m |
| 93A051283 | CAB-8501 IP65 CABLE FAM 8K 1,2m |
| 93A051284 | CAB-8502 IP65 CABLE FAM 8K 2,5m |
| 93A051285 | CAB-8505 IP65 CABLE FAM 8K 5 m |
| 93A051290 | CAB-8605 POWER+2TERM. CABLE FAM 8K 5m |
| 93A051295 | CAB-PWO 03 CABLE PWO TO PWO, 3M |
| 93A051338 | CAB-SC6003 25P SC6K TO PWO, I/O, 3M |
| 93A051337 | CAB-SC6013 25p SC6K TO PWO, PWR/NET, 3m |
| 93A051294 | CAB-SC6103 9p CAB SC6000 TO PWR, 3m |
| 93ACC1130 | FBK-8100 FAST BRACKET KIT (2PCS) |
| 93ACC1750 | FS-1 FRAME SHAPER (8PCS) |
| 93ACC1878 | FS-2 SMART FRAME SHAPER (2 PCS) |
| 93A251020 | GFC-80 90 DEGREES MIRROR DS8100 |
| 93A201103 | GFC-800 90 DEG MIRROR CL. DIST. DS8100 |
| 93ACC1280 | PLL-8000 OPTOCOUPLED PLL DEVICE |
| 93ACC1767 | PWO-480 POWER OMNI SYSTEM 480W |
| 93ACC1530 | PWR-120-JBOX POWER UNIT 110/230VAC 24V |
| 93ACC1070 | PWR-240-JBOX POWER UNIT 110/230VAC 24V |
| 93ACC1757 | UPT-80 DX8200A-DX8200 ADAPTER |
| 93ACC1140 | US-8100 BRACKET KIT (10PCS) DS8100 |
| 93A051355 | CAB-F01 6K/8K FBUS CABLE TO CBX 1M |
| 93A051356 | CAB-F02 6K/8K FBUS CABLE TO CBX 2M |
| 93A051357 | CAB-F05 6K/8K FBUS CABLE TO CBX 5M |
| 93A051288 | CAB-6502 FAM 6K-8K CABLE 2,5m |
| 93A051289 | CAB-6505 FAM 6K-8K CABLE 5m |
| 93ACC1600 | OEK-1 OPTICAL ENCODER KIT+ CABLE 10m |
| 93ACC1770 | OEK-2 OPTICAL ENCODER (CAB 10m+SPRING) |
| 93ACC1791 | MEP-593 PHOTOCCELL KIT |