



DS6100

High Performance Laser Scanner

Features

- New high performance code reconstruction through **ACR™** 2nd generation technology
- High ambient light immunity by high frequency laser modulation
- Reading Distance up to 1800 mm (71 in.)
- Scanning speed up to 1600 scan/s
- Dual SW programmable RS232/RS485 serial interfaces
- Parcelgap reduction through the **PackTrack™** system
- **WINHOST™** user friendly programming interface
- Keypad and backlit LCD display for fast programming

Applications

- Tray and parcel sorting systems
- Process control and parts tracking
- Omnidirectional reading stations
- Warehousing and picking systems
- Loading and Unloading systems

General Description

The **DS6100** is a technologically advanced and proved bar code reading system representing a complete solution for the widest range of applications in the material handling sector. The introduction of innovative functions and new technologies make the **DS6100** the most versatile laser scanner in its market segment.

The **DS6100** has been developed to fulfill the most demanding material handling identification requirements, combining a perfect mix of advanced research and solid experience for extremely innovative applications.

Datalogic patented **ACR™** 2nd generation technology permits reading of very low aspect ratio codes placed anywhere on the objects. This basic technology allows powerful omni-directional stations to be created. **ACR™** 2nd generation also dramatically increases the reading capabilities of low quality printed or corrupted bar codes.

Thanks to **PackTrack™** technology, the Datalogic patented parcel tracking system, the distance between parcels in omnidirectional **DS6100** reading stations can be reduced to a few centimeters, allowing full throughput utilization of the transport system.

The **DS6100's** bar code reading capabilities are not affected by ambient light conditions, thanks to Datalogic's high frequency laser light modulation system. The **DS6100's** highest reading performance is assured under the most demanding conditions by optimization technology based on the innovative Self Adjusting Digitizer, supported by the patented **CDSQUARE™** code distance detector.

The patented technologies employed in the **DS6100** assure excellent reading performance in a large number of material handling applications and sorting systems. **DS6100** will astonish you not only by its performance, but also by its ease of use and control capabilities making it a real "plug & play" device.

Technologies



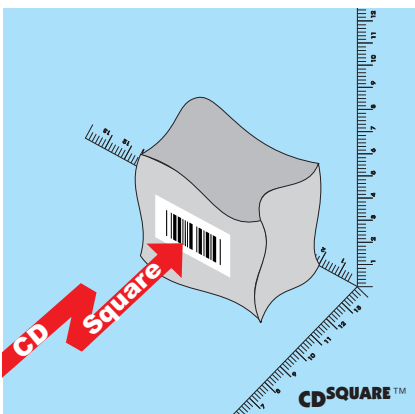
Advanced Code Reconstruction

ACR™ technology (Advanced Code Reconstruction) performs bar code image reconstruction and real time decoding on virtually all bar code symbologies with the labels placed anywhere on objects.

The multiprocessor architecture based on a powerful DSP combines, in real time, partial slices of the code to be read, with a maximum decoding speed of 100,000 characters/sec.

The **ACR™** software algorithm offers maximum efficiency and decoding reliability. It performs multiple code reading and is not dependent on bar code aspect ratios. **ACR™** technology can also be profitably employed to enhance the readability of poorly printed or damaged codes.

ACR™ 2nd generation represents the latest evolution of code reconstruction technology providing additional performance and features including insensitivity to start/stop movements and vibrations, as well as improved performance on 4 level codes.



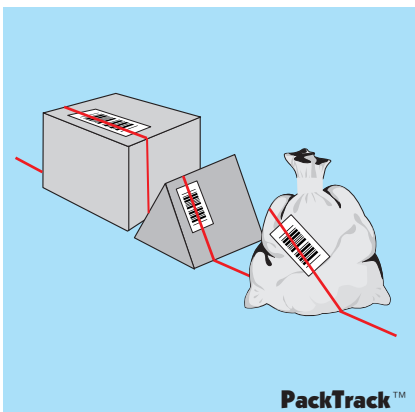
Code Distance Detector

CD SQUARE™ (Code Distance Detector) is a revolutionary technology allowing accurate detection of bar code label positioning wherever the bar code is located, independent of the object shape.

The **CD SQUARE™** system analyses the analog signal collected by the photodiode receiver, and identifies the area in which the code is located. It then measures the code distance from the scanner.

All these operations are done in real time for multiple bar codes and for every scan up to a maximum of 1600 scans.

The information provided by **CD SQUARE™** is used to optimize decoding processing and perform object tracking, as well as offering the possibility to provide information about the object's shape or dimensions.



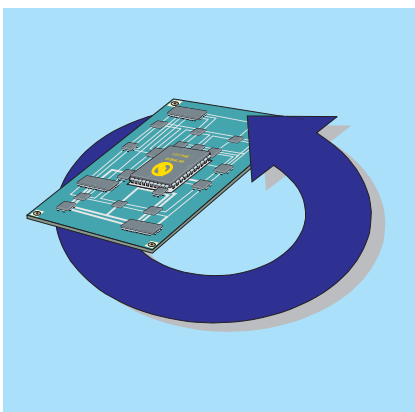
Integrated Parcel Tracking

PackTrack™ is a DL patented system for parcel tracking supported by the DS6100 omnidirectional reading stations.

PackTrack™ can manage the most demanding applications, such as 6-sided reading systems, where traditional systems are unable to detect the real position of the code, necessary for tracking (for instance bar code labels on baggage in airport applications).

Today, the limitations of these applications are overcome by **CD SQUARE™** and **PackTrack™** that assure 100% correct bar code assignment with 50 mm minimum gap between objects.

PackTrack™ eliminates the need for external accessories required by the traditional tracking systems, such as photocells, encoders and height detector barriers, making installation and setting of the whole transport system less expensive, faster and easier.

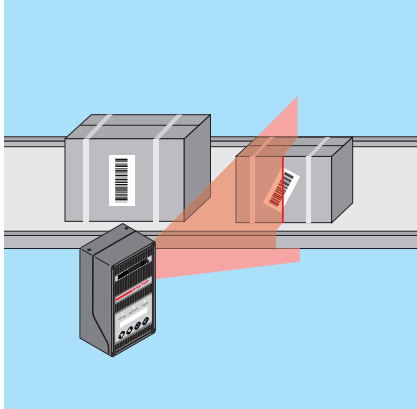


Self-Adjusting Digitizer

The innovative features of the Self-Adjusting Digitizer allow the highest reading result in the most varied conditions.

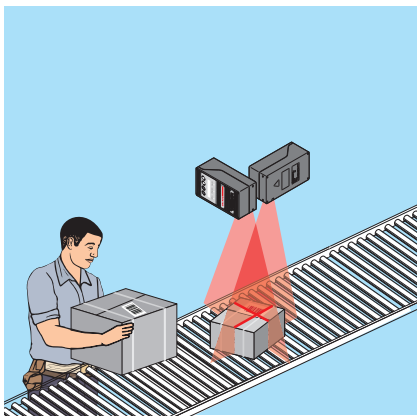
Based on sophisticated electronic circuitry, the Digitizer adapts its elaboration parameters to the different reading conditions supplying real time electronic optimization for each code to be read. Bar code distance measurement provided by **CD SQUARE™** and bar code quality information are combined by the Self-Adjusting Digitizer enhancing the decoding capabilities in every reading condition and the readability of low quality bar code labels.

Applications



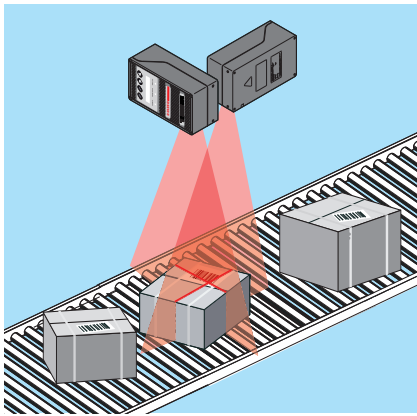
High tilt angle tolerance label positioning

The benefit of avoiding label position control and the possibility to read labels with a tilt angle exceeding the linear decoding capabilities reduces costs and makes automated processes more flexible. In many oriented label applications, especially in the material handling sector, a percentage of the bar codes reach the reading area with an excessive tilt angle. **ACR™** code reconstruction technology basically eliminates the position error performing code reconstruction, decoding independently from the code aspect ratio. **ACR™** also enhances the reading result on poorly printed codes. **DS6100** gives you solutions to tomorrow's needs without any extra cost.



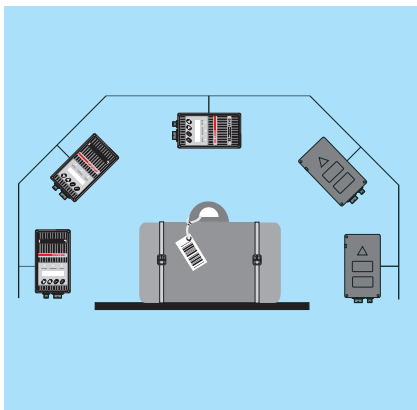
Loading/Unloading conveyor system

DS6100 can provide extremely cost effective solutions for the material handling sector, matching state-of-the-art technology and industrial reliability with an extremely competitive price. The **DS6100** single cross omni-station is the best solution for express courier and postal applications requiring a large number of reading stations in local offices and centers. The cost effective **DS6100** omni-station justifies the use of fixed position scanners in place of hand-held bar code readers. The **DS6100** features and performance are uncomparable to other low cost solutions. The omni-station features compact dimensions, high scan rate, multiple label reading and code reconstruction technology (allowing very low aspect ratio code reading), available for the first time for low-end applications.



Unattended scanning system

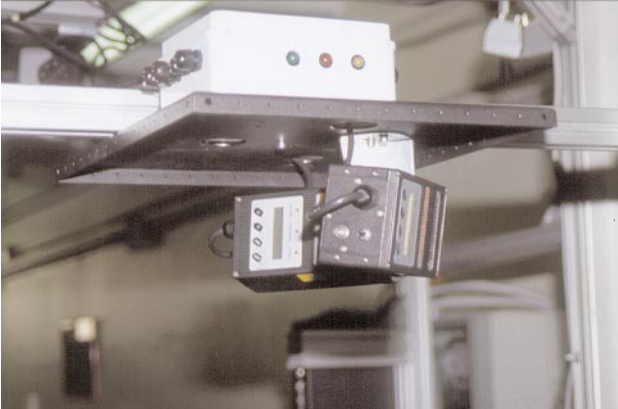
The need for higher and higher productivity in sortation and transport systems creates the need for faster conveyors. The costs connected to manual identification along the automated lines must be reduced by means of high performance and reliable automatic identification equipment. The **DS6100** omni-stations offer the highest reading performance combined with advanced decoding and control features at the highest speeds. The maximum scan rate of 1600 scans/sec, **ACR™** technology and Real Time Decoding as well as integrated **PackTrack™** functions are the main benefits offered by **DS6100** omnidirectional reading solutions. **PackTrack™** allows minimum distance between parcels with no need for external photocells, sensors and encoders, making the **DS6100** omni-station installation faster, easier and less expensive. While the user friendly **WINHOST™** software program takes care of the station parameters setup, the station's performance can be monitored and analyzed by means of the new **VOYAGER™** software.



Automatic Baggage Handling & Cargo Applications

The **DS6100** has been designed to support the most demanding applications in the material handling sector, such as 6-sided omnidirectional reading stations installed at 360° around a conveyor. Several limitations of today's technology are overcome thanks to the advanced performance of **CD SQUARE™** (label position detection) and **PackTrack™**, able to match object and label when they are passing through the reading station with a minimum gap between objects reduced to 50 mm. Such performance gives you many benefits, especially when the conveyor is based on tilt-tray system. Code Reconstruction and the Self-Adjusting Digitizer enhance bar code reading on poorly printed or damaged codes, while the **VOYAGER™** software program monitors the station reading performance. It also presents detailed reading statistics and diagnostic data for each reader.

Omni-Station System



Single-cross omni-station by XMF-05 and XBOX-05



Single-cross omni-station on fast conveyor



Single-cross omni-station on conveyor loading system



Double-cross omni-station on paired XMF-05 mounting frames

Omni-Station Accessories

Definition, Installation, set-up and maintenance of omnidirectional stations based on the DS6100 are supported by a line of dedicated accessories designed to keep the station as easy to handle as an integrated omnidirectional scanner while maintaining all the flexibility of a multiple linear scanner system.

The XMF-05

The DS6100 omni-station system is based on the **XMF-05** mounting frame. The **XMF-05** has been especially designed to simplify the installation of omnidirectional reading stations for DS6100 scanners.

The reading configurations possible with the **XMF-05** are single-cross (two scanners positioned at 90 degrees) or 'delta' (three scanners positioned at 60 degrees). The **XMF-05** allows automatic alignment to the conveyor.

The three scanners 'delta' configuration increases reading capabilities in the most demanding applications, especially where reading of very narrow codes is required.

The **XMF-05** sturdy metal plate allows fast and easy installation of up to three mounting brackets (provided with the **XMF-05**) on prepared reference holes. The scanners can be safely mounted on the brackets in the desired omnidirectional reading configuration. The omnidirectional station can be easily installed on the conveyors by four fixing points.

For applications on wide conveyors a high performance double cross configuration can be constructed easily by means of two single-cross configurations: installing two **XMF-05** side by side on the conveyor.

The XBOX-05

The **XBOX-05** works as a dedicated junction box for omnidirectional stations providing the necessary connections for a two, three, or four scanner omnidirectional configuration to the host PC / PLC or Multiplexer.

In Junction Box configuration, the DS6100 can be plugged directly into the **XBOX-05** along with the Host PC, the power supply and the I/O signals making the omnidirectional stations wiring extremely fast, easy, and orderly.

The **XBOX-05** is also equipped with three LED indicators and a Beeper providing useful information about the omnidirectional station reading conditions.

The VOY-05 VOYAGER™ kit

The **VOY-05 VOYAGER™** kit is composed of an interface board to be plugged directly into a dedicated connector inside the **XBOX-05** and a **VOYAGER™** installation diskette. A Windows™ based PC can be configured as a **VOYAGER™** station and connected by RS232 to the reserved serial port on **XBOX-05**.

The **VOYAGER™** PC station is a powerful tool for monitoring, controlling and optimizing omnidirectional stations based on the DS6100 providing real time statistics, scanner performance reporting and remote diagnostic functions.

Omni-Station System

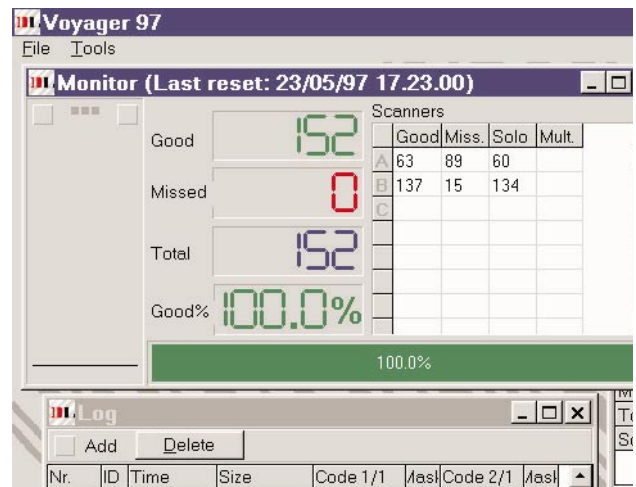
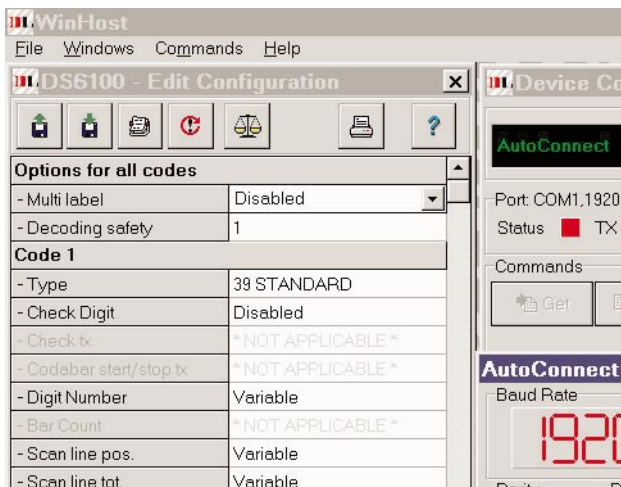


Double-cross omni-station on fast conveyor

Omni-Station Benefits

- Cost effective solution
- ACR™ reading for very low aspect ratio codes
- PackTrack™ technology for minimum gap between parcels
- High immunity to ambient light
- High scan rate (1600 scan/sec for each line)
- Fast and easy installation by dedicated accessories
- Extended reading field
- Self-adjusting digitizer for optimized reading
- Automatic set up based on WINHOST™ s/w package
- Real time statistics based on VOYAGER™ s/w package
- Compact dimensions
- IP65 protection class

User Friendly Stations



WINHOST™



Windows based



Help on Line



Easy Parameters Setting



Compare Configurations



Configurations Database



Interactive Mode

VOYAGER™



Real Time Statistics



Complete System Control & Monitoring



Detailed Report on each Scanner



Remote Diagnostic



Virtual Parcel Movie

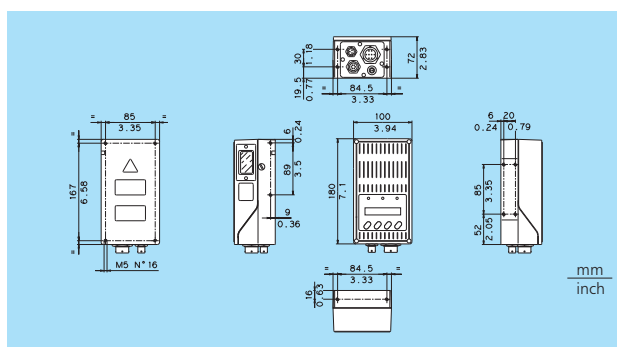
Models and Accessories

MODEL	CONNECTIONS		ORDER NO.
	Connectors	Junction Box	
DS6100-3000	•		931251050
DS6100-3100		•	931251060
ACCESSORIES			
PG110/50	Power block (110 Vac)		B9751094
PG220/50	Power block (220 Vac)		B9751095
GFC-50	90° reading device		B9751067
GFC-05	Oscillating mirror attachment		B9751098
US-1	Installation support		91H031000
XMF-05	Single cross mounting frame		91H031120
XBOX-05	Connection box single/double cross		93ACC1010
VOY-05	Voyager Kit XBOX-05		93ACC1030
US-05	Mounting Brackets (10 pcs)		93ACC1000
INT-26	20 mA C.L. interface board		93A151010

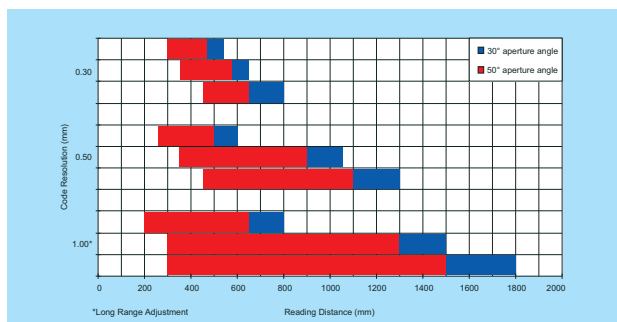
Specifications

POWER SUPPLY	10 to 30 Vdc
POWER CONSUMPTION	6 W
LIGHT SOURCE	Visible Laser Diode (670 nm)
LIGHT RECEIVER	Avalanche photodiode
MAX. RESOLUTION	0.20 mm (8 mils)
SCANNING SPEED	800 (1600) scans per second
SINGLE SCANNER STATION	
READING DISTANCE	Up to 1800 mm (71 in)
DEPTH OF FIELD	Up to 1600 mm (63 in)
SINGLE CROSS OMNI-STATION	
READING WIDTH	Up to 600 mm (24 in)
DEPTH OF FIELD	Up to 600 mm (24 in)
READABLE CODES	The most popular symbologies ind. 2/5 family, Code 39, Code 93, Code 128, EANUPC, Codabar
CODE AUTODISCRIMINATION	Up to 5 different codes
MAIN INTERFACE	RS232 / RS485 SW programmable (20 mA C.L. optional)
AUX. INTERFACE	RS232 / RS485 SW programmable (20 mA C.L. optional)
BAUD RATE	1200 to 57,600 bauds
INPUT SIGNALS	'Presence sensor' and 1 auxiliary (NPN/PNP transistor)
OUTPUT SIGNALS	'No read,' 'Right code' and 1 auxiliary (NPN transistor open collector and emitter)
SET UP	Built-in keypad and menu driven display / Via serial port Winhost™
OPERATING MODES	'On line,' 'Serial on line,' 'Automatic,' 'Pack Track™,' 'Test
DISPLAY	2 line by 16 character LCD
KEYPAD	4 keys
LED INDICATORS	'Laser on,' 'Reading phase active,' 'Label present,' 'Data transmit'
LASER CLASSIFICATION	IEC 825 Class 2
LASER CONTROL	Security system to turn laser Off in case of motor slow down or failure
DIMENSIONS	180 x 100 x 72 mm (7.09 x 3.94 x 2.83 in)
WEIGHT	1.3 Kg (2.87 lbs) approx.
CASE MATERIAL	Aluminium
OPERATING TEMPERATURE	0 to 40 °C (32 to 104 °F)
STORAGE TEMPERATURE	-20 to 70 °C (-4 to 158 °F)
HUMIDITY	90% non condensing
VIBRATION RESISTANCE	IEC 68-2-6 test FC 1.5 mm, 10 to 55 Hz; 2 hours on each axis
SHOCK RESISTANCE	IEC 68-2-27 test EA 30 G 11 ms; 3 shocks on each axis
PROTECTION CLASS	IP65

Dimensions



Reading Diagram



DATA LOGIC DL

Bar Code & More

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