











APPLICATIONS

- Automated warehousing
- Medium conveyor sorting
- Reading on forklift trucks
- Picking systems
- Automated shop floor

ADVANTAGES

- Extended reading range from 300 to 2500 mm thanks to FLASH™ dynamic focus technology
- 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™ 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

- FLASH™ dynamic focus technology
- Reading range from 300 to 2500 mm ACR4™ reconstruction technology improves reading of damaged barcodes
- DIGITECH™ technology enables excellent reading performance
- PACKTRCK[™] technology to minimize the gap between objects and increase system productivity
- Linear and integrated Oscillating Mirror versions
- · Built-in connectivity to Ethernet / Profibus / DeviceNet
- · Display and keyboard for scanner monitoring and diagnostics

GENERAL DESCRIPTION

DS6400 is an industrial fixed position barcode reader specifically designed for the needs of various Auto ID applications in manufacturing and logistics. DS6400 is based on the same concept as DS6300: a complete modular solution in terms of reading performance, built-in connectivity, ease of use and maintenance.

The DS6400 embeds a linear motor providing a dynamic focus system called FLASH™, fully controlled via software, which covers an impressive reading range of over 2 meters. FLASH™ is capable of moving the focus position from the minimum to the maximum position in less than 10 ms.

DS6400 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.

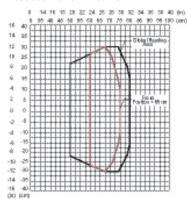






DS6400-100-0XX

Resolution: 0.20 mm/8 mils



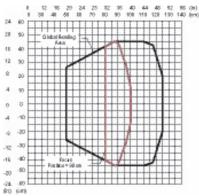
CONDITIONS

40 45 50 55 60 65 70 75 80 85 16 18 20 22 24 26 28 30 32 34

Code = Interleaved 2/5 or Code 39 PCS = 0.90

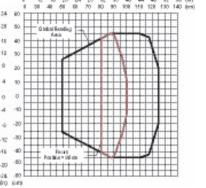
Pitch angle = 0° Skew angle = 10° - 20° Tilt angle = 0°

DS6400-100-0XX Resolution: 0.25 mm/10 mils

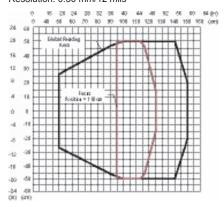


CONDITIONS

Code = Interleaved 2/5 or Code 39 PCS = 0.90 Pitch angle = 0° Skew angle = 10° - 20° Tilt angle = 0°



DS6400-100-0XX Resolution: 0.30 mm/12 mils



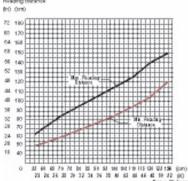
(in) (cm) 40 100

38 95

20 18 45

Reading dishares

8rd Resi 46 125



6 68 68 ED ER TR 76 ER 58 ED ER 108 106 110 116 10 28 22 24 28 28 ER 22 34 ER 58 40 42 44 46

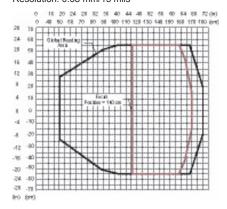
CONDITIONS

Code = Interleaved 2/5 or Code 39 PCS = 0.90 Pitch angle = 0° Skew angle = 10° - 20° Tilt angle = 0°

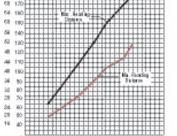
54



DS6400-100-0XX Resolution: 0.38 mm/15 mils



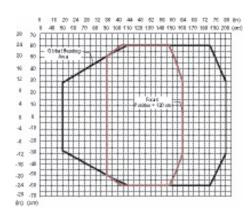
70 190 68 170 64 180

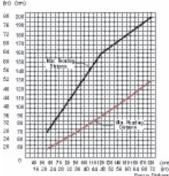


CONDITIONS

Code = Interleaved 2/5 or Code 39 PCS = 0.90 Pitch angle = 0° Skew angle = 10° - 20° Tilt angle = 0°

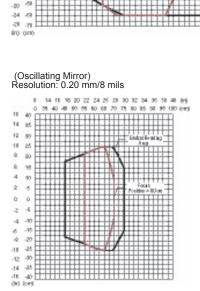
DS6400-100-0XX



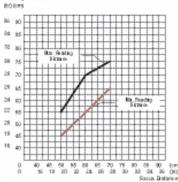


CONDITIONS

Code = Interleaved 2/5 or Code 39 PCS = 0.90 Pitch angle = 0° Skew angle = 10° - 20° Tilt angle = 0°



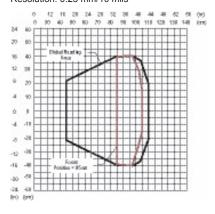
Reading distance



CONDITIONS

Code = Interleaved 2/5 or Code 39 PCS = 0.90 Pitch angle = 0° Skew angle = 10° - 20° Tilt angle = 0°

DS6400-105-0XX (Oscillating Mirror) Resolution: 0.25 mm/10 mils

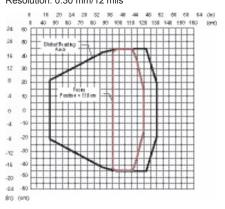


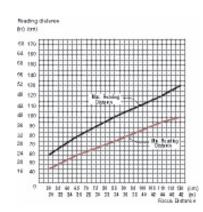
60 10 35 00 60 10 75 75 00 20 10 50 10 100 961 9 10 661 15 30 22 14 20 25 30 12 14 30 35 40 42 44 40 (80)

CONDITIONS

Code = Interleaved 2/5 or Code 39 PCS = 0.90 Pitch angle = 0° Skew angle = 10° - 20° Tilt angle = 0°

DS6400-105-0XX (Oscillating Mirror) Resolution: 0.30 mm/12 mils



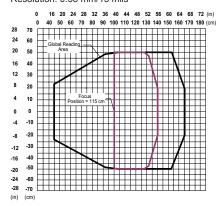


CONDITIONS

Code = Interleaved 2/5 or Code 39 PCS = 0.90
Pitch angle = 0°
Skew angle = 10° - 20°
Tilt angle = 0°



DS6400-105-0XX (Oscillating Mirror) Resolution: 0.38 mm/15 mils

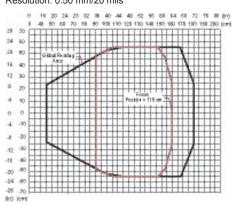


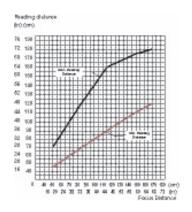
72 908 68 178 64 468 68 958 64 468 68 958 58 948 52 158 48 125 44 115 48 108 56 52 58 50 78 54 58 50 58 50 58 50 58 50 58

CONDITIONS

Code = Interleaved 2/5 or Code 39 PCS = 0.90 Pitch angle = 0° Skew angle = 10° - 20° Tilt angle = 0°

DS6400-105-0XX (Oscillating Mirror) Resolution: 0.50 mm/20 mils





CONDITIONS

Code = Interleaved 2/5 or Code 39 PCS = 0.90
Pitch angle = 0°
Skew angle = 10° - 20°
Tilt angle = 0°

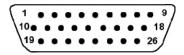
DIMENSIONS **OSCILLATING MIRROR VERSION** 388 mm / inch

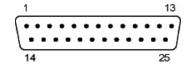
ELECTRICAL CONNECTIONS

All the connectors available for each DS6400 model are the following:

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

The DS6400 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 DS6400 Ethernet models adopt a 26-pin male connector instead of the 25-pin one.





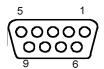
26-pin Connector

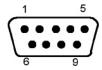
25-pin Connector

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

^{*} Do not leave floating, see DS6400 Reference Manual for connection details.

ELECTRICAL CONNECTIONS





Female (all models)

Male (Master/Slave model)

9-pin Local Lonworks Connectors

9-pin Local Lonworks Connectors

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

In DS6400 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	
931351093	DS6400-100-010 DYN. FOCUS, LINEAR, M/S	
931351095	DS6400-100-011 DYN. FOCUS, LINEAR, PROFIBUS	
931351097	DS6400-100-012 DYN. FOCUS, LINEAR, ETHERNET	
931351099	DS6400-100-015 DYN. FOCUS, LINEAR, DEVICENET	
931351103	DS6400-105-010 DYN. FOCUS, OSC. MIRROR, M/S	
931351105	DS6400-105-011 DYN. FOCUS, OSC. MIRROR, PROFIBUS	
931351107	DS6400-105-012 DYN. FOCUS, OSC. MIRROR, ETHERNET	
931351109	DS6400-105-015 DYN. FOCUS, OSC. MIRROR, DEVICENET	

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

TECHNICAL DATA

	DS6400-100-01X	DS6400-105-01X	
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	Alum	Aluminum	
OPERATING TEMPERATURE	0 to 40 °C (3	2 to 104 °F),	
STORAGE TEMPERATURE	-20 to 70 °C (-20 to 70 °C (-4 to 158 °F)	
HUMIDITY	90% non c	ondensing	
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; 1	1 ms; 3 shocks on each axis	
PROTECTION CLASS	IP64 for standard mod	IP64 for standard models; IP65 on request	
LIGHT SOURCE	Visible laser diode	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		
COMMUNICATION INTERFACES	Main Port: RS232/RS485 up to 115.2 Kbit/s		
COMMONICATION INTERFACES	Auxiliary Port: RS232 up to 115.2 Kbit/s		
OTHER AVAILABLE INTERFACES	Lonworks (Master/Slave), Ethernet, Profibus, DeviceNet		
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	Power On, Phase On, Data Tx		
DEVICE PROGRAMMING	Windows™ based SW (Geniu	Windows™ based SW (Genius™) via serial or Ethernet link	
DEVICE PROGRAMMINING	Serial Host Mode Pro	Serial Host Mode Programming sequences	
OPERATING MODES	'On-line', 'Serial On-line', 'Continuous', 'Test', 'PackTrack™'		
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		