



DS1100 Laser Barcode Reader Quick Reference Guide



The scanner is classified as a Class 2 laser product according to EN 60825-1 regulations and as a Class II laser product according to CDRH regulations.

For installation, use and maintenance it is not necessary to open the scanner.

There is a safety device which allows the laser to be switched on only if the motor is rotating above the threshold for its correct scanning speed.

The motor and the laser beam can be switched off through a software command (see also the WinHost Help On Line).

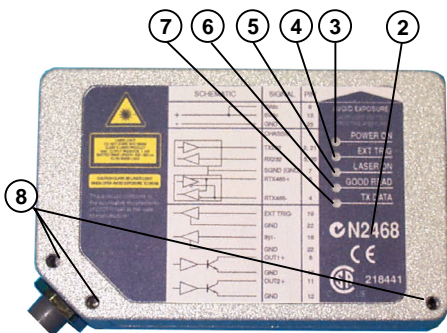


Figure A

- ① Laser Beam Output Window
- ② Laser Warning and Device Class Label
- ③ Power On LED
- ④ Ext Trig LED
- ⑤ Laser On LED
- ⑥ Good Read LED
- ⑦ TX Data LED
- ⑧ Mounting Holes

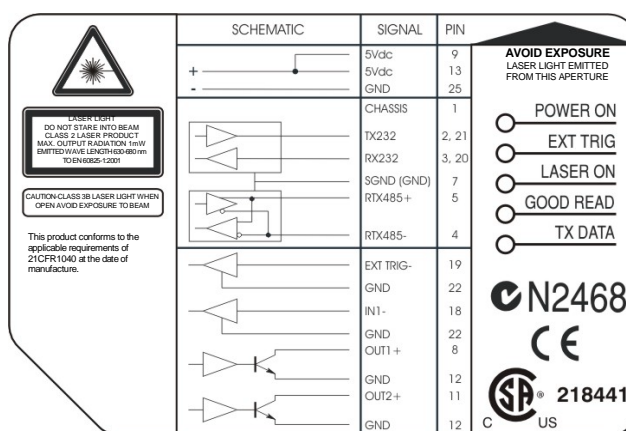
For further details on product installation, see the complete Installation Manual.

DS1100 can be configured through the WinHost Windows-based software program available on the installation CD-ROM.

For configuration it is necessary to create a cable connecting the scanner to the PC as indicated in the "How To Build A Simple Interface Test Cable" section of this guide.

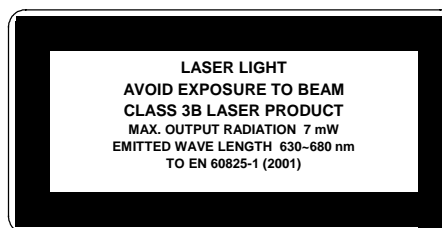
POWER SUPPLY

- This product is intended to be installed by Qualified Personnel only.
- This accessory device is intended to be supplied by a UL Listed or CSA Certified Power Unit with «Class 2» or LPS power source which supplies power directly to the scanner via the 25-pin connector.



Warning and Device Class Label

The laser diode used in this device is classified as a class 3B laser product according to EN 60825-1 regulations and as a Class IIIb laser product according to CDRH regulations. As it is not possible to apply a classification label on the laser diode used in this device, the following label is reproduced below.

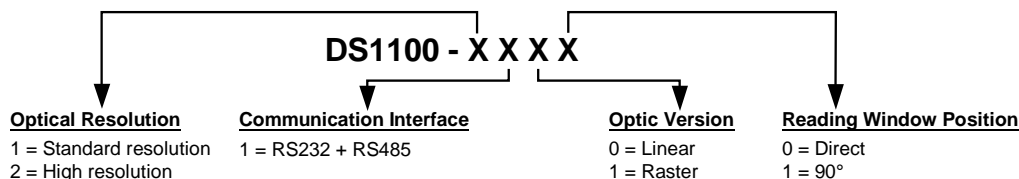


Laser Diode Class Label

Any violation of the optic parts in particular can cause radiation up to the maximum level of the laser diode (7 mW at 630 to 680 nm).



Model Description:



Reading Performance:

Version	Reading Distance	Max Code Resolution mm (mils)	Speed scans/s
1XXX	30 mm (1.2 in) - 220 mm (8.7 in) on 0.50 mm (20 mils) codes	0.20 (8)	500
2XXX	10 mm (0.4 in) - 110 mm (4.3 in) on 0.30 mm (12 mils) codes	0.12 (5)	500

Technical Features:


ELECTRICAL FEATURES		SOFTWARE FEATURES	
Power Supply	5 Vdc ± 5%	Readable Codes EAN/UPC (including Add-on 2 and Add-on 5) Code 39 2/5 Interleaved Code 128 EAN 128 Code 93 Codabar Pharmacode	Headers and Terminators Up to four header and four terminator characters
Power Consumption	1.5 W maximum		
Main Serial Interface	RS485 Half-Duplex		
Auxiliary Interface	RS232		
Baud Rates	150 to 115200		
Inputs	External Trigger; IN1		
Outputs	OUT1, OUT2 User-defined		
V _{CE} max.	50 Vdc		
Collector Current	50 mA continuous max.		
V _{CE} Saturation	0.3 V at 10 mA max.		
Power Dissipation max.	200 mW at 40 °C (Ambient temp.)	Operating Modes On-Line, Automatic, Serial-On-Line, Test	Special Functions Motor On/Off sw commands Laser On/Off sw commands
OPTICAL FEATURES			
Light Source	Semiconductor laser diode		
Wavelength	In the range 630 to 680 nm		
Safety Class	Class 2 - EN 60825-1;CDRH		
ENVIRONMENTAL FEATURES			
Operating Temperature	0° to +45 °C (+32° to +113 °F)		
Storage Temperature	-20° to +70 °C (-4° to +158 °F)		
Humidity max	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 30G; 11 ms; 3 shocks on each axis	Configuration Modes Through menus using WinHost utility Host Mode (commands from one of the serial ports)	Decoding Safety Can enable multiple good reads of the same code
Protection Class	IP65		
USER INTERFACE			
LED Indicators	Power ON, Good Read, External Trigger, Data TX; Laser ON		
PHYSICAL FEATURES			
Dimensions	80x50x24 mm (3.15x1.9x1 in)		
Weight without Cable	<100 g. (3.53 oz)		
Parameter Storage			
Non-volatile internal EEPROM			
Code Selection			
Up to six different codes during one reading phase			

Accessories:

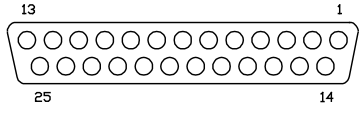
Name	Description	Part Number
DC5-2200	DC converter 4-30 Vdc to 5 Vdc	93ACC1040

Electrical Connections:

DS1100 is equipped with a cable terminated by a 25-pin female D-sub connector for connection with the power supply and input/output signals.

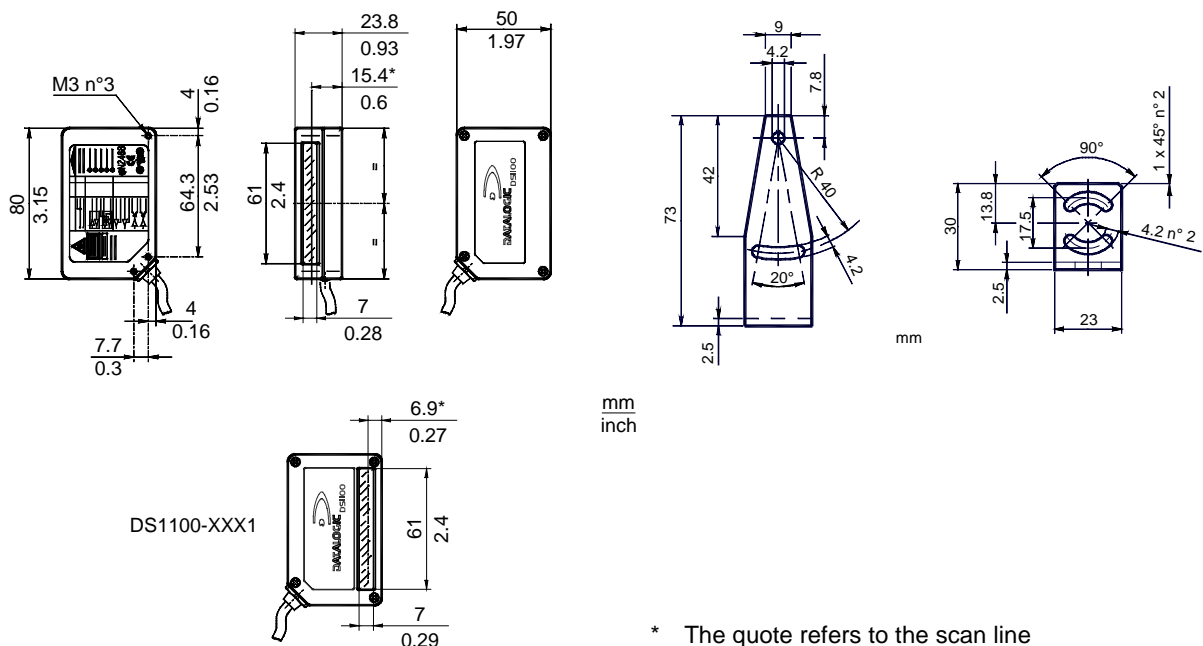
 CAUTION	<p><i>Do not connect GND and SGND to different (external) ground references. GND and SGND are internally connected through filtering circuitry which can be permanently damaged if subjected to voltage drops over 0.8 Vdc.</i></p>
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The details of the connector pins are indicated in the following table:

25-pin D-sub female connector pinout			
Pin	Name	Function	
9, 13	VS	Power supply input voltage +	 25-pin female connector
25*	GND	Power supply input voltage -	
1*	CHASSIS	Chassis ground	
2, 21	TXAUX	TX RS232 Aux. Interface	
3, 20	RXAUX	RX RS232 Aux. Interface	
4	RTX485-	RTX- RS485 Main Interface	
5	RTX485+	RTX+ RS485 Main Interface	
7	SGND	Signal Ground	
8	OUT 1+	Output 1+	
11	OUT 2+	Output 2+	
18	IN 1-	Input 1-	
19	EXT TRIG -	External Trigger -	
12, 22	GND	Input/Output reference	
23, 24	N.U.	Not Used	
6, 10, 14, 15, 16, 17	N.C.	Not Connected	

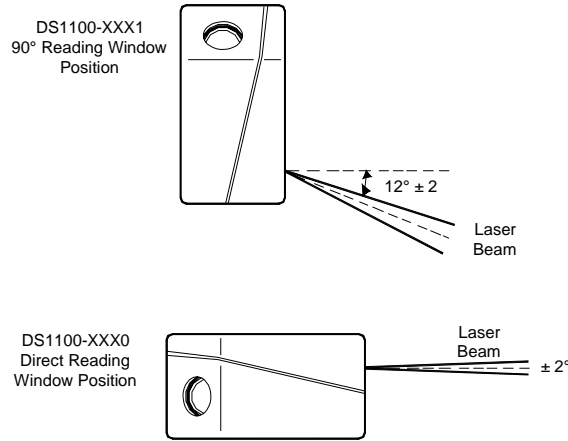
* Pins 1 and 25 are connected together internally.

Mechanical Installation:

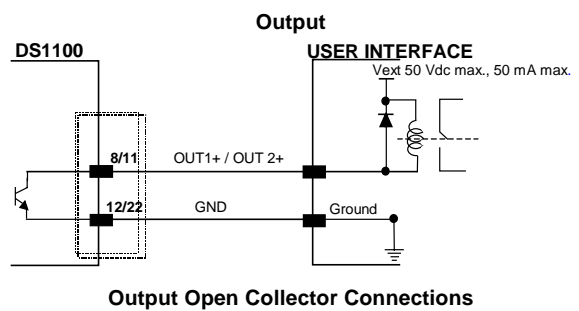
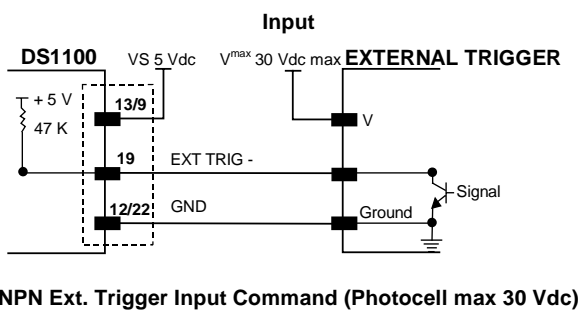
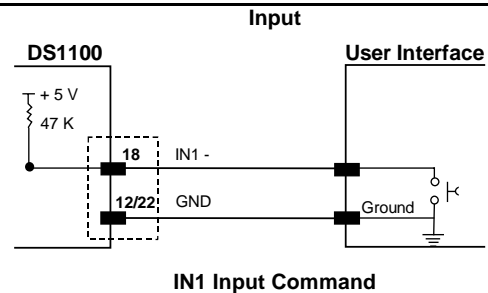
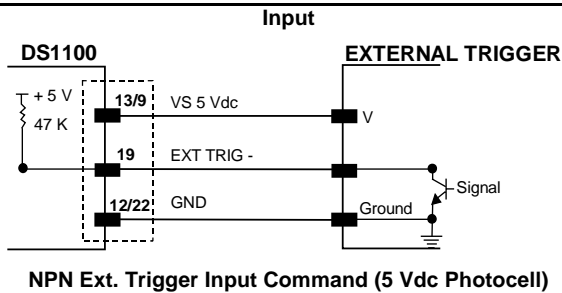


Reading Position:

In DS1100-XXX1 models the laser beam is emitted from the output window with a $12^\circ (\pm 2)$ skew angle.



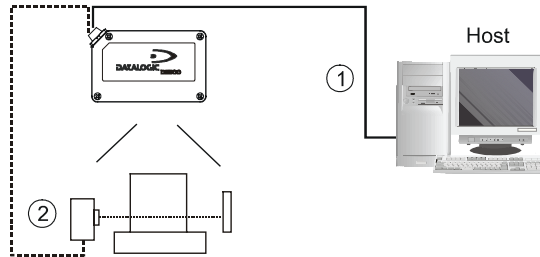
Input/Output Connections:



$V_{CE} \text{ max} = 50 \text{ Vdc}$
 $I \text{ max} = 50 \text{ mA continuous}$

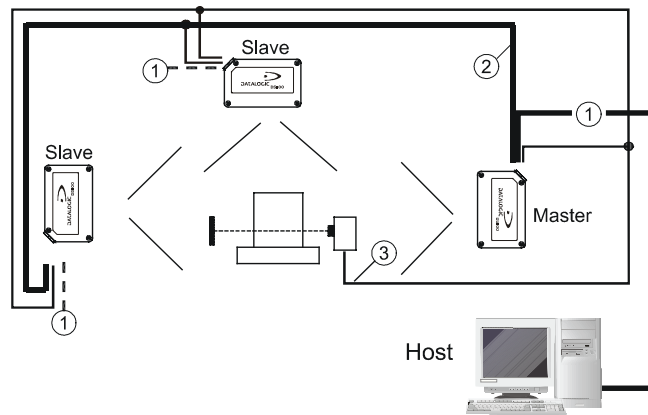
Connectivity:

RS232 Point-to-point layout



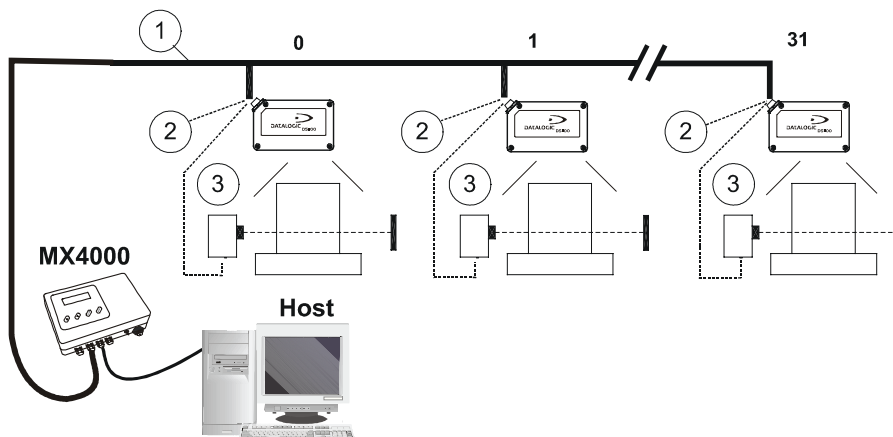
- ① RS232 Auxiliary Serial Interface
- ② External Trigger (for On-Line mode)

RS485 Master/Slave layout



- ① RS232 Auxiliary Serial Interface
- ② RS485 HD Main Serial Interface
- ③ External Trigger

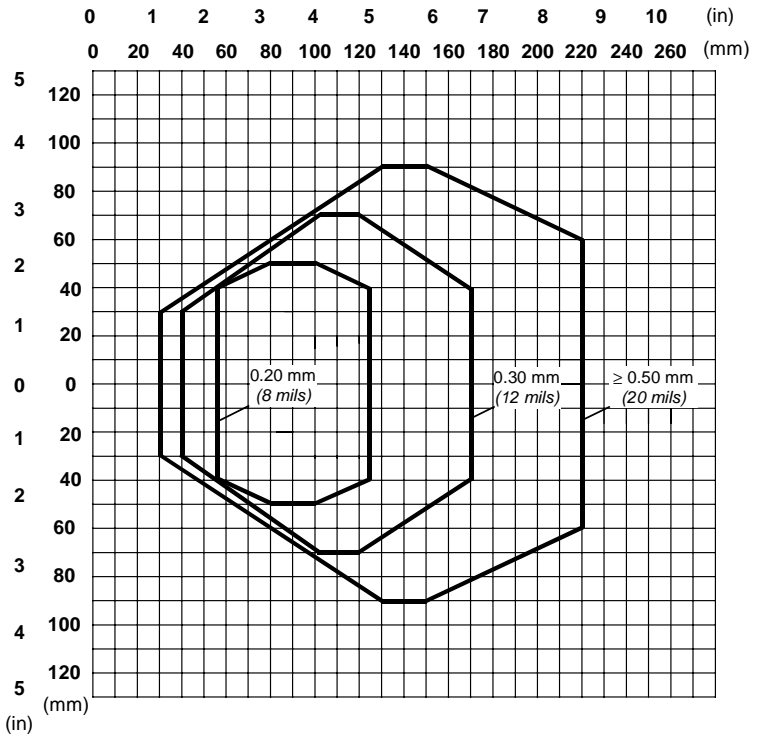
Multiplexer layout



- ① RS485 HD Main Interface
- ② RS232 Auxiliary Interface (Local Echo)
- ③ External Trigger (for On-Line mode)

Reading Diagrams:

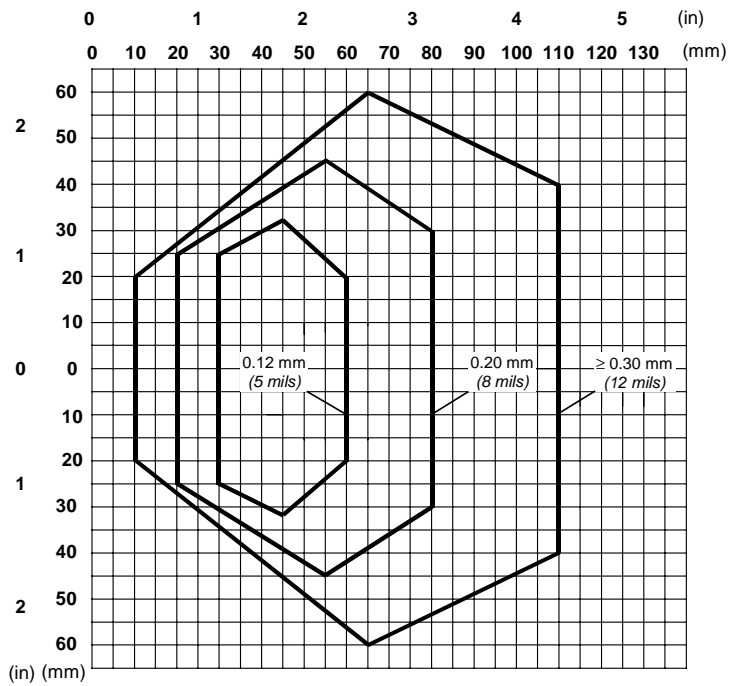
DS1100-1XXX (Standard Resolution)



CONDITIONS

Code = Interleaved 2/5 or Code 39
 PCS = 0.90
 Pitch angle = 0°
 Skew angle = 15°
 Tilt angle = 0°

DS1100-2XXX (High Resolution)

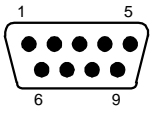
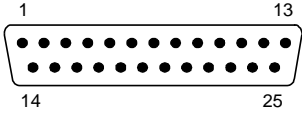


CONDITIONS

Code = Interleaved 2/5 or Code 39
 PCS = 0.90
 Pitch angle = 0°
 Skew angle = 15°
 Tilt angle = 0°

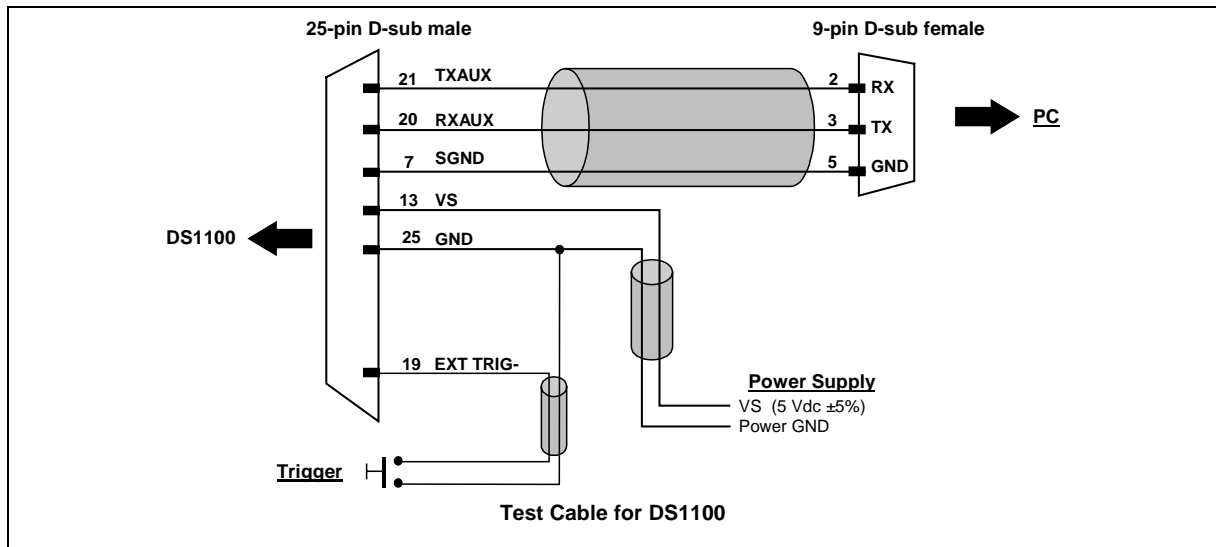
User Interface:

The following table contains the pinout for standard RS232 PC Host interface. For other user interface types please refer to their own manual.

RS232 PC-side connections			
 <p>9-pin male connector</p>		 <p>25-pin male connector</p>	
Pin	Name	Pin	Name
2	RX	3	RX
3	TX	2	TX
5	GND	7	GND
7	RTS	4	RTS
8	CTS	5	CTS

How To Build A Simple Interface Test Cable:

The following wiring diagram shows a simple test cable including power, external (push-button) trigger and PC RS232 COM port connections.



DATALOGIC S.p.A.,
Via Candini, 2
40012 - Lippo di Calderara
Bologna - Italy



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declares that the
déclare que le
bescheinigt, daß das Gerät
declare que el

DS1100-XXXX Laser Scanner e tutti i suoi modelli
and all its models
et tous ses modèles
und seine modelle
y todos sus modelos

sono conformi alle Direttive del Consiglio Europeo sottoelencate:
are in conformity with the requirements of the European Council Directives listed below:
sont conformes aux spécifications des Directives de l'Union Européenne ci-dessous:
der nachstehend angeführten Direktiven des Europäischen Rats:
cumple con los requisitos de las Directivas del Consejo Europeo, según la lista siguiente:

89/336/EEC EMC Directive	e	92/31/EEC, 93/68/EEC	emendamenti successivi
	and		further amendments
	et		ses successifs amendements
	und		späteren Abänderungen
	y		sucesivas enmiendas

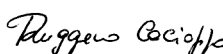
Basate sulle legislazioni degli Stati membri in relazione alla compatibilità elettromagnetica ed alla sicurezza dei prodotti.
On the approximation of the laws of Member States relating to electromagnetic compatibility and product safety.
Basée sur la législation des Etats membres relative à la compatibilité électromagnétique et à la sécurité des produits.
Über die Annäherung der Gesetze der Mitgliedsstaaten in bezug auf elektromagnetische Verträglichkeit und Produktsicherheit entsprechen.
Basado en la aproximación de las leyes de los Países Miembros respecto a la compatibilidad electromagnética y las Medidas de seguridad relativas al producto.

Questa dichiarazione è basata sulla conformità dei prodotti alle norme seguenti:
This declaration is based upon compliance of the products to the following standards:
Cette déclaration repose sur la conformité des produits aux normes suivantes:
Diese Erklärung basiert darauf, daß das Produkt den folgenden Normen entspricht:
Esta declaración se basa en el cumplimiento de los productos con las siguientes normas:

EN 55022, August 1994: LIMITS AND METHODS OF MEASUREMENTS OF RADIO DISTURBANCE CHARACTERISTICS OF INFORMATION TECHNOLOGY EQUIPMENT (ITE)

EN 61000-6-2, April 1999: ELECTROMAGNETIC COMPATIBILITY (EMC).
PART 6-2: GENERIC STANDARDS - IMMUNITY FOR INDUSTRIAL ENVIRONMENTS

Lippo di Calderara, 14/07/2003


Ruggero Cacioppo
Quality Assurance Supervisor