



# **FireScan™**

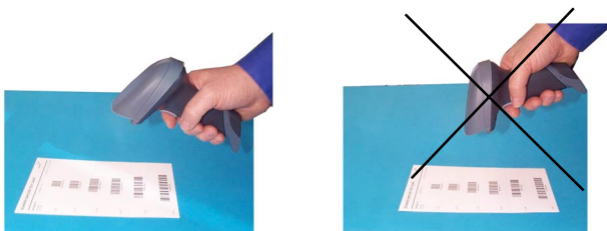
## **D131 READERS**

### **QUICK REFERENCE**



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## USING FIRESCAN™ SERIES READERS



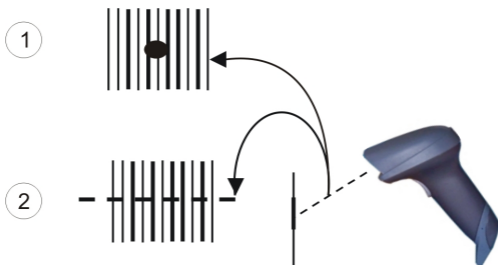
FireScan™ laser scanners automatically scan barcodes **at a distance**. Simply aim and pull the trigger. Code scanning is performed along the scan line emitted from the reading window.

This line must cross the entire code.

Successful scanning is obtained by tilting the scanner with respect to the barcode to avoid direct reflections which impair the reading performance, see the figure above.

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## AIMING SYSTEM



FireScan™ laser scanners provide a programmable aiming system. If enabled, the scan line emitted from the reading window is preceded by a red spot which must illuminate the code center to get the best reading performance (see figure above, ①). Once the defined timeout is reached, the red spot disappears and is followed by the scan line to start the code scanning.

After configuring the scanner, read one of the following codes to set desired aiming system timeout.

◆ aiming system disabled



300 ms



500 ms



1 sec



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## CONNECTIONS

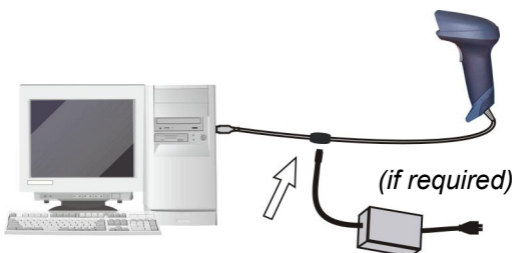
### RS232



With the RS232 cable, this accessory device is intended to be supplied by a UL Listed Direct Plug-in Power Unit marked "Class 2", rated 5 V, minimum 200 mA.

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### USB



With the USB cable, this accessory device is intended to be supplied by a UL Listed Power Unit marked "Class 2", or an LPS power source which supplies power directly to the reader.

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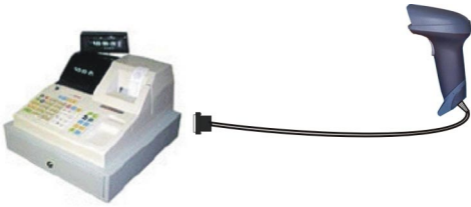
### IBM USB POS



With the USB cable, this accessory device is intended to be connected to a UL Listed computer which supplies power directly to the reader.

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## PEN



With the Pen Emulation cable, this accessory device is intended to be supplied by a UL Listed Power Unit marked "Class 2", or an LPS power source which supplies power directly to the reader.

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## WEDGE

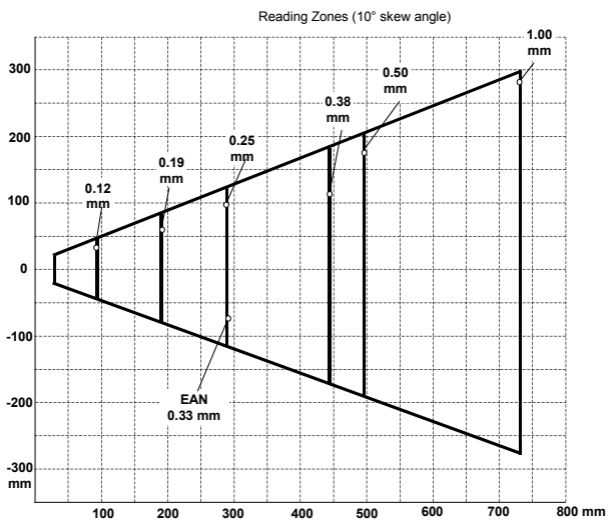


With the Wedge or PC Notebook cables, this accessory device is intended to be connected to either a UL Listed Computer which supplies power directly to the reader or a UL Listed Direct Plug-in Power Unit marked "Class 2", rated 5 V, minimum 200 mA.

## DISCONNECTING THE CABLE



## READING DIAGRAM



## TECHNICAL FEATURES

### FireScan™ D131

| <b>Electrical Features</b>   |   |
|--|---|
| Power Supply   | 5 Vdc $\pm$ 5%  |
| Consumption:<br>Maximum<br>Operating<br>Sleep Mode/USB<br>Suspend Mode | 200 mA @ 5 Vdc<br>150 mA @ 5 Vdc<br><500 $\mu$ A @ 5 Vdc                |
| Max. Scan Rate   | 35 $\pm$ 5 scans/sec  |
| Reading Indicators   | Laser On (red) LED,<br>Good Read (green) LED,<br>adjustable tone beeper |
| <b>Optical Features</b>  |   |
| Light Source   | Laser diode 630 - 680 nm  |
| Power (peak)   | 0.9 mW  |
| Scan angle   | 42° $\pm$ 2°  |
| Laser Safety Class<br>EN 60825-1 / CDRH                                | 2   |
| Reading Field  | see reading diagram   |
| Max. Resolution  | 0.12 mm (5 mils)  |
| PCS  | min. 15% (Datalogic Test Chart)   |
| <b>Environmental Features</b>  |   |
| Working Temperature  | 0 °C to + 50 °C   |
| Storage Temperature  | -20 °C to + 70 °C   |
| Humidity   | 90% non condensing  |
| Drop Resistance<br>(on concrete)                                       | IEC 68-2-32 Test ED<br>1.5 m  |
| ESD Protection   | 16 KV   |
| Protection Class   | IP30  |
| <b>Mechanical Features</b>   |   |
| Weight (without cable)   | about 210 g. (7.4 oz.)  |
| Cable Length   | 2 m (6 ft. 6 in.)   |

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## INTERFACE SELECTION

Follow the procedure to configure the interface required by your application:

- USB Interface
- RS232 Interface
- Wedge Interface
- Pen Interface

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## USB INTERFACE CONFIGURATION

The USB interface is compatible with:

|                        |                       |
|------------------------|-----------------------|
| Windows 98 (and later) | IBM POS for Windows   |
| Mac OS 8.0 (and later) | 4690 Operating System |

### START-UP

As with all USB devices, upon connection, the Host performs several checks by communicating with the FireScan™. During this phase the green LED on the FireScan™ reader blinks and normal operations are suspended. Two basic conditions must be met before FireScan™ is ready to read codes, the correct USB driver must be loaded and sufficient power must be supplied to the reader.

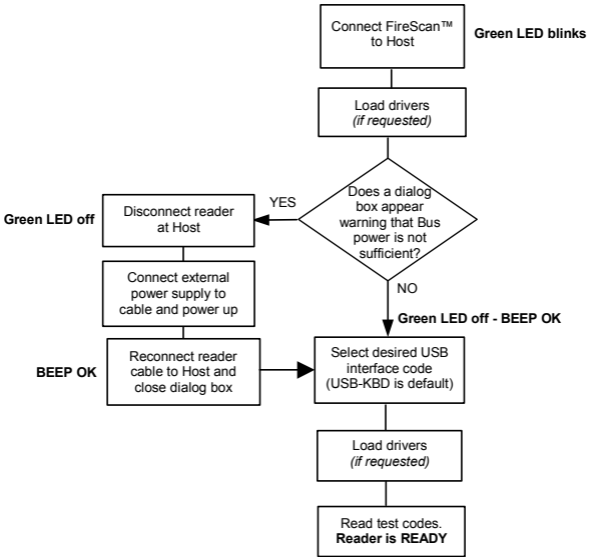
For all systems, the correct USB driver for the default USB-KBD interface is included in the Host Operating System and will either be loaded automatically or will be suggested by the O.S. and should therefore be selected from the dialog box (the first time only).

If the Host supplies sufficient power to the reader, the start-up phase ends correctly, the green LED stops blinking and the reader emits the beep OK signal.

If the Host does not supply sufficient power to the reader, a dialog box will appear on the Host and the reader will be blocked (green LED continues blinking). In this case, disconnect the USB cable at the Host (green LED stops blinking), connect and power-up an external supply to the USB cable then reconnect the USB cable to the Host and close the dialog box. The reader emits the beep OK signal. You can now read codes. At this point you can read the USB interface configuration code according to your application. Load drivers from the O.S. (if requested). When configuring the USB-COM interface, the relevant files and drivers must be installed from the USB Device Installation software which can be downloaded from the web page <http://www.datalogic.com/services/support/>.

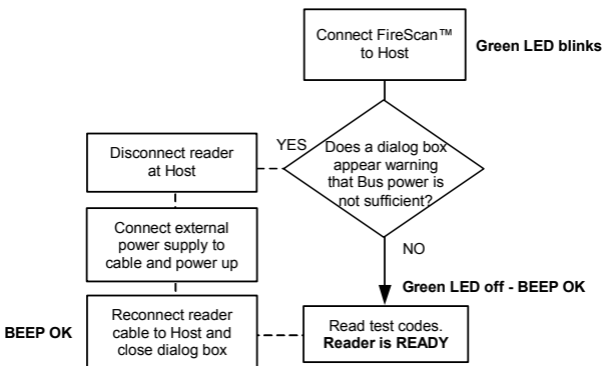
The reader is ready.

## First Start-Up



Successive start-ups will automatically recognize the previously loaded drivers. If external power is used, verify that external power is already supplied.

## Successive Start-Ups



## USB INTERFACE SELECTION

USB-KBD



USB-COM\*



USB-IBM-Table Top



USB-IBM-Hand Held



USB-KBD-ALT-MODE



USB-KBD-APPLE



\* When configuring USB-COM, the relevant files and drivers must be installed from the USB Device Installation software which can be downloaded from the web page <http://www.datalogic.com/services/support/>.

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## USB KEYBOARD NATIONALITY

USB-KBD users should select one of the following KEYBOARD NATIONALITY codes. The default value is restored through the Interface Selection code.

Belge



Deutsch



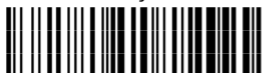
English



Español



Français



Italiano



Svenskt



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## USB KEYBOARD NATIONALITY (Continued)

◆ USA



Japanese



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## RS232 READER CONFIGURATION

Read the RESTORE DEFAULT code, then read the interface selection code for your application.

**RESTORE DEFAULT**



**RS232**

Standard



**POS Systems**

Nixdorf Mode A



Fujitsu



ICL Mode



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# WEDGE READER CONFIGURATION

Read the RESTORE DEFAULT code, then read the interface selection code for your application.

## RESTORE DEFAULT



## WEDGE

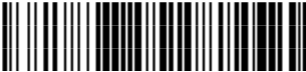
IBM AT or PS/2 PCs



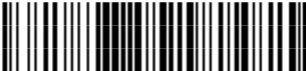
IBM XT



PC Notebook



IBM SURE1



IBM Terminal 3153



## WEDGE (continued)

IBM Terminals 31xx, 32xx, 34xx, 37xx:

To select the interface for these IBM Terminals, read the correct KEY TRANSMISSION code. Select the KEYBOARD TYPE if necessary (default = advanced keyboard).

### KEY TRANSMISSION MODE

make-only keyboard



make-break keyboard



### KEYBOARD TYPE

advanced keyboard



typewriter keyboard



The following interface selection allows barcodes sent to the PC to be interpreted correctly independently from the Keyboard Nationality used. **You do not need to make a Keyboard Nationality selection.**

(default = Num Lock Unchanged)

**Make sure the Num Lock key on your keyboard is ON.**

IBM AT - ALT mode



PC Notebook - ALT mode



## WEDGE (continued)

### Wyse Terminals

ANSI Keyboard



PC Keyboard



ASCII Keyboard



VT220 style Keyboard



### Digital Terminals

VT2xx/VT3xx/VT4xx



### APPLE

APPLE ADB Bus



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## WEDGE KEYBOARD NATIONALITY

Wedge users should select one of the following WEDGE KEYBOARD NATIONALITY codes. The default value is restored through the Interface Selection code.

Belge



Deutsch



English



Español



Français



Italiano



Svenskt



◆ USA



The following Keyboard Nationality selection is only valid for IBM AT compatible PCs:

Japanese



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## PEN READER CONFIGURATION

Read the RESTORE DEFAULT code, then read the PEN interface selection code.

### RESTORE DEFAULT



### PEN



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## DEFAULT VALUES

### USB DEFAULT SETTINGS

DATA FORMAT: code identifier disabled, no field adjustment, code length not transmitted, character replacement disabled.

USB KEYBOARD: USA keyboard, inter-character and inter-code delays disabled, control character emulation = ctrl+shift+key;

USB COM: no handshaking, delay disabled, rx timeout 5 sec., ack/nack disabled, FIFO enabled, serial trigger lock disabled;

Default Headers and Terminators for each USB mode:

- USB-KBD: no header, terminator = ENTER
- USB-KBD-ALT-MODE: no header, terminator = CR
- USB-COM: no header, terminator = CR-LF
- USB-IBM-TABLE TOP: not applicable
- USB-IBM-HAND HELD: not applicable

### RS232 Standard DEFAULT SETTINGS

9600 baud, no parity, 8 data bits, 1 stop bit, no handshaking, delay disabled, rx timeout 5 sec., ack/nack disabled, FIFO enabled, serial trigger lock disabled;

DATA FORMAT: code identifier disabled, no field adjustment, code length not transmitted, *no header, terminator = CR-LF*, character replacement disabled

### RS232 Nixdorf DEFAULT SETTINGS

9600 baud, parity odd, 8 data bits, 1 stop bit, handshaking hardware (RTS/CTS), delay disabled, rx timeout 9.9 sec., ack/nack disabled, FIFO enabled, serial trigger lock disabled;

### **RS232 Nixdorf DEFAULT SETTINGS**

DATA FORMAT: code identifier enabled, no field adjustment, code length not transmitted, *no header, terminator = CR*, character replacement disabled

### **RS232 Fujitsu DEFAULT SETTINGS**

9600 baud, no parity, 8 data bits, 1 stop bit, no handshaking, delay disabled, rx timeout 2 sec., ack/nack disabled, FIFO enabled, serial trigger lock disabled;

DATA FORMAT: code identifier enabled, no field adjustment, code length not transmitted, *no header, terminator = CR*, character replacement disabled

### **RS232 ICL DEFAULT SETTINGS**

9600 baud, parity even, 8 data bits, 1 stop bit, handshaking RTS always on, delay disabled, rx timeout 9.9 sec., ack/nack disabled, FIFO enabled, serial trigger lock disabled;

DATA FORMAT: code identifier enabled, no field adjustment, code length not transmitted, *no header, terminator = CR*, character replacement disabled

### **WEDGE DEFAULT SETTINGS**

USA keyboard, caps lock off, caps lock auto-recognition enabled, num lock unchanged, inter-character and inter-code delays disabled, control character emulation = ctrl+shift+key;

DATA FORMAT: code identifier disabled, no field adjustment, code length not transmitted, *no header, terminator = ENTER*, character replacement disabled

### **PEN EMULATION DEFAULT SETTINGS**

interpret mode, conversion to code 39 disabled, output level normal, idle level normal, minimum output pulse 600  $\mu$ s, overflow medium, inter-block delay disabled

### **POWER SAVE**

sleep/USB suspended disabled

### **READING PARAMETERS**

hardware trigger, trigger active level, no trigger timeout, Flash On = 1 sec, Flash Off = .6 sec, one read per cycle, safety time .5 sec, beeper intensity high, tone 2, beeper type monotone, beeper length short, aiming system disabled

### **DECODING PARAMETERS**

ink spread enabled, overflow control enabled, interdigit control enabled, Puzzle Solver™ disabled, decoding safety = one read

## CODE SELECTION

### enabled codes

- EAN 8/EAN 13 / UPC A/UPC E without ADD ON check digit transmitted, no conversions
- Interleaved 2/5  
check digit control and transmission, variable length code; 4-99 characters
- Standard Code 39  
no check digit control, variable length code; 1-99 characters
- Code 128  
variable length code; 1-99 characters

### disabled codes:

*EAN 128, ISBT128, Code 93, Codabar, pharmaceutical codes, MSI, Plessey, Telepen, Delta IBM, Code 11, Code 16K, Code 49, RSS Codes*

## ADVANCED FORMATTING PARAMETERS

concatenation disabled, no advanced formats defined

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## OPERATING TEST

Read the TEST codes below.

**EAN-8**



**EAN-13**



**Code 39 (Normal)**



**Code 128**



**Interleaved 2 of 5**



**YOUR READER IS NOW READY TO READ BARCODES.**

To change the defaults see the HHD II Software Configuration Manual, part number **90ACC1877**.

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## WARRANTY

Datalogic warrants this product against defects in workmanship and materials, for a period of 24 months from the date of shipment, provided that the product is operated under normal and proper conditions.

Datalogic has the faculty to repair or replace the product, these provisions do not prolong the original warranty term.

The warranty does not apply to any product that has been subject to misuse, accidental damage, unauthorized repair or tampering.

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## SERVICES AND SUPPORT

Datalogic provides several services as well as technical support through its website. Log on to [www.datalogic.com/services](http://www.datalogic.com/services) and click on the [links](#) indicated for further information including:

- [\*\*Datalogic Services\*\*](#) – Warranty Extensions and Maintenance Agreements
- [\*\*Downloads\*\*](#) – Software Downloads, Manuals and Catalogues
- [\*\*Contact Us\*\*](#) – Listing of Datalogic Subsidiaries and Quality Partners
- [\*\*Authorised Repair Centres\*\*](#)
- [\*\*Products >Hand-Held Readers >Software Tools\*\*](#) – DL Sm@rtSet™

DL Sm@rtSet™ is a Windows-based utility program which allows device configuration using a PC. It provides RS232 interface configuration as well as configuration barcode printing.

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## FCC COMPLIANCE

**This device complies with PART 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference which may cause undesired operation.**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



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**FireScan D1XX**

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:  
den nachstehenden angeführten Direktiven des Europäischen Rats:  
cumple con los requisitos de las Directivas del Consejo Europeo, según la lista siguiente:

|                                 |     |                             |                            |
|---------------------------------|-----|-----------------------------|----------------------------|
| <b>89/336/EEC EMC Directive</b> | e   | <b>92/31/EEC, 93/68/EEC</b> | 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 Etates 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.

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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 la siguientes normas:

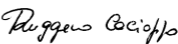
**EN 55022, August 1994:**

LIMITS AND METHODS OF MEASUREMENTS OF  
RADIO DISTURBANCE OF INFORMATION  
TECHNOLOGY EQUIPMENT (ITE)

**EN 55024, September 1998:**

INFORMATION TECHNOLOGY EQUIPMENT.  
IMMUNITY CHARACTERISTICS. LIMITS AND  
METHODS OF MEASUREMENTS

Lippo di Calderara, 23/02/2004

  
Ruggero Cacioppo  
Quality Assurance Laboratory Manager