DATALOGIC™

SC4000

QUICK REFERENCE GUIDE

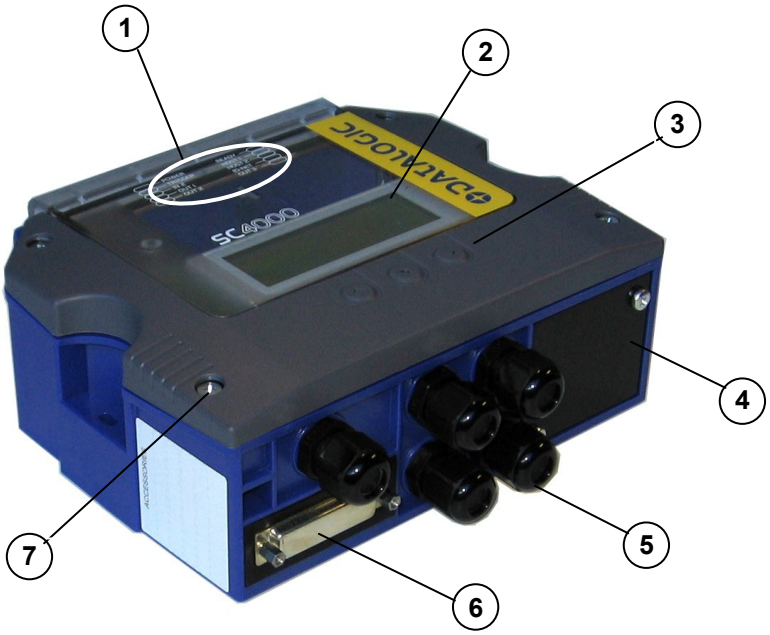

Figure A

1. Indicator LEDs
2. Display 4x20 Characters
3. 3-Key Keypad
4. Host Interface Module Panel
5. Compression Connectors (5)
6. IP65 protection cover when not using 25-pin Optional Passthrough Device Connector
7. Cover Screws (4)

NOTE

For more details on alternative types of installations, and for a complete controller configuration using the Genius™ configuration program, refer to the SC4000 Reference Manual and Help On-Line available on the CD. This manual is also downloadable from the Web at ***www.automation.datalogic.com/sc4000****.*

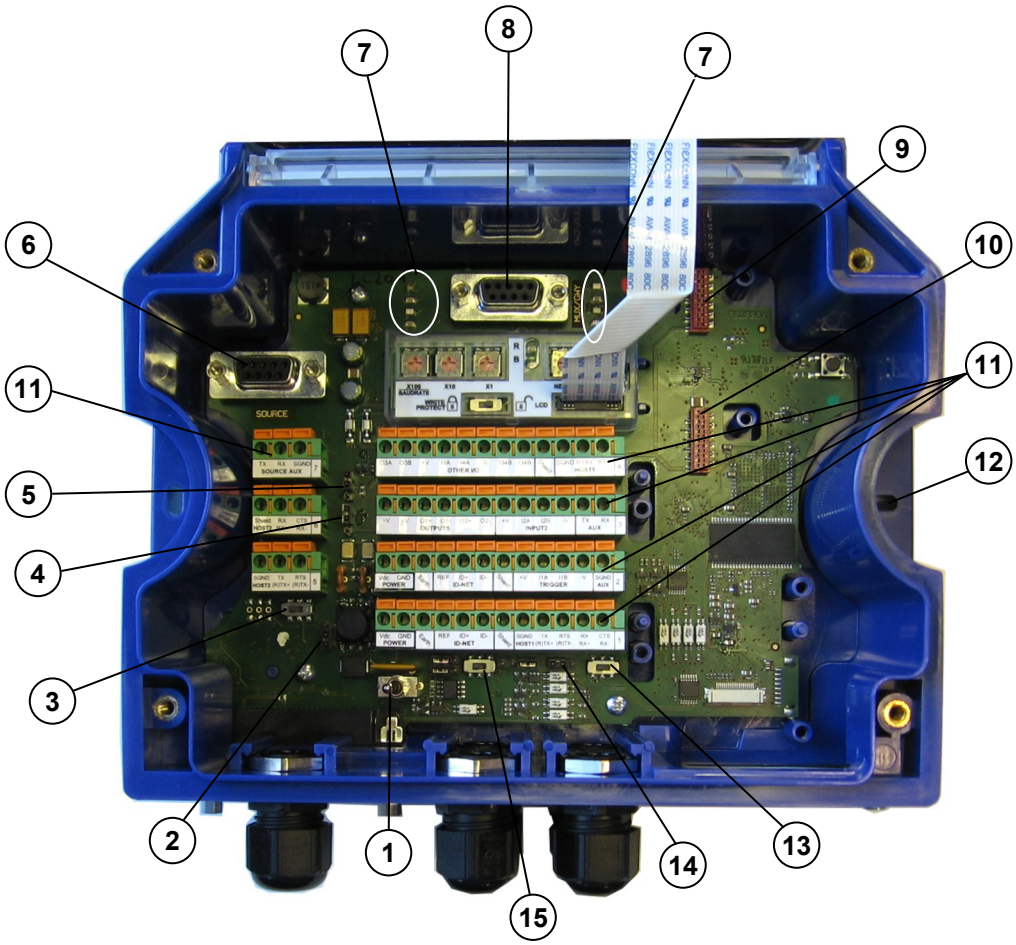

Figure B

1. Power Switch (ON/OFF)
2. Source Chassis Grounding Selector
3. Host 2 RS485 HD Termination Resistance
4. Host 2 Shield Selector
5. Power Source Selector
6. Data Source Port Connector
7. Indicator LEDs
8. Auxiliary Port Connector
9. IP65 Host Interface Module Connector
10. Standard Host Interface Module Connector
11. Spring Clamp Terminal Blocks
12. Mounting Holes (2)
13. Host 1 RS485 HD Termination Resistance Switch
14. ID-NET/Host 1 Shield Selector
15. ID-NET Termination Resistance Switch

UPDATES AND LANGUAGE AVAILABILITY

UK/US The latest drivers and documentation updates for this product are available on Internet.
Log on to: www.automation.datalogic.com

I Su Internet sono disponibili le versioni aggiornate di driver e documentazione di questo prodotto. Questo manuale è disponibile anche nella versione italiana.
Collegarsi a: www.automation.datalogic.com

F Les versions mises à jour de drivers et documentation de ce produit sont disponibles sur Internet. Ce manuel est aussi disponible en version française.
Cliquez sur : www.automation.datalogic.com

D Im Internet finden Sie die aktuellsten Versionen der Treiber und Dokumentation von diesem Produkt. Die deutschsprachige Version dieses Handbuches ist auch verfügbar.
Adresse : www.automation.datalogic.com

E En Internet están disponibles las versiones actualizadas de los drivers y documentación de este producto. También está disponible la versión en español de este manual.
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Datalogic provides several services as well as technical support through its website. Log on to **www.automation.datalogic.com** and click on the links indicated for further information including:

- **PRODUCTS**
  Search through the links to arrive at your product page where you can download specific **Manuals** and **Software & Utilities**:
  - **Genius™** a utility program, which allows device configuration using a PC. It provides RS232 and Ethernet interface configuration.
- **SERVICES & SUPPORT**
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LEGAL NOTICES

DESCRIPTION

SC4000 is an industrial controller designed for high speed data collection in an ID-NET™ network of Datalogic Automation's 1D/2D code readers.
Up to 31 readers can be connected to satisfy the most demanding applications. The SC4000 unit collects data, monitors the status of the ID-NET™ network and provides statistics through several interfaces.

SC4000 allows complete network monitoring, statistics and diagnostics through Datalogic WebSentinel™, the new surveillance software solution for the total remote control and monitoring of the readers.
WebSentinel™ allows remote data access through the most common Web browsers, as well as easy remote control, configuration and monitoring by means of the Genius™ pass-through feature.
The additional multi-language Display & Keypad provides useful information about performance and malfunctioning to users.

System cabling is made through spring clamp terminal blocks inside the SC4000, while an optional reading device can be connected to the controller through a 25-pin connector on the housing.

Two 9-pin connectors located inside the SC4000 facilitate connection to an external PC for service purposes (for example, for configuring the controller and the reading devices).

Four embedded rotary switches allow easy manual Network Type and Addressing/Baud Rate selection; an embedded Backup and Restore module permits to minimize plant downtime.

SC4000 can also house several accessories which make the system highly flexible. These include:

- Several Host Interface Modules - to interface the scanner with the most popular Fieldbus network types: Ethernet, Profibus; DeviceNet, etc., including IP65 protection versions.
- Mounting Adapters – to provide easy mounting to DIN rails and Bosch profiles.

PACKAGE CONTENTS

Verify that the SC4000 and all the parts supplied with the equipment are present and intact when opening the packaging; the list of parts includes:

- SC4000 ID-NET™ Controller with IP65 protection cover
- This Quick Reference Guide
- Mounting screws and washers (2)
- SC4000 Configuration CD-ROM

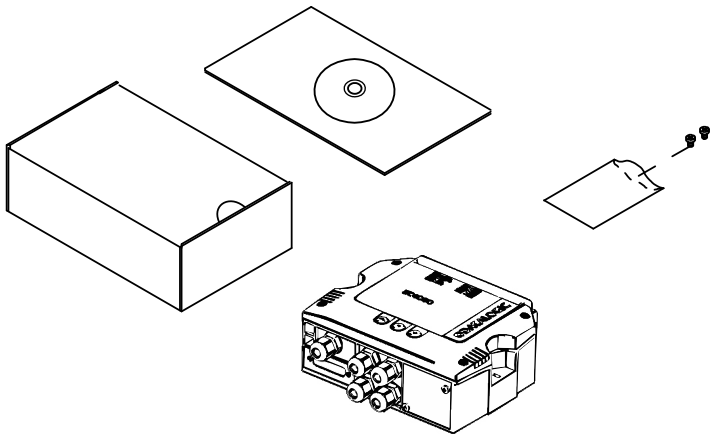


Figure 1 - Package Contents

ACCESSORIES

SC4000 can be equipped with optional accessories as follows:

Name	Description	Part Number
BM200/210	Ethernet TCP/IP Module STD/IP65	93ACC1851, 93ACC1852
BM300/310	Profibus Module STD/IP65	93ACC1810, 93ACC1811
BM400	DeviceNet Module IP65	93ACC1814
BM500/510/520	Ethernet/IP Module STD/IP65/IP54	93ACC1812, 93ACC1813, 93ACC1840
BM600	CANopen Module STD	93ACC1815
BM700	Profinet Module STD	93ACC1816
BM1100	CC-Link Module STD	93ACC1845
BM1200/1210	Modbus TCP STD/IP65	93ACC1848, 93ACC1849
BA100	DIN Rail Adapters	93ACC1821
BA200	Bosch Adapters	93ACC1822
BA900	Two Cable Glands Panel	93ACC1847

SUPPORTED READING DEVICE MODELS

The following reading devices can be connected as Slave nodes in an ID-NET™ network through a passive CBX100 connection box having SC4000 as the ID-NET™ Master.

ID-NET™	Linear Scanners			2D Readers	
Full-Speed	**DS2100N NSC**	**DS2400N NSC**	**DS4800**	**Matrix 200™**	**MATRIX 400™**
Low-Speed * (sw v. 6.62)	**DS6300**	**DS6400** **DS8100A**	**DX6400** **DX8200A**		

Any serial device (Hand-Held Reader, 6K, 8KA Scanner, Matrix-2000, etc.), can be connected through a CBX800 Gateway for Full-Speed ID-NET™ compatibility with SC4000. See the CBX800 Gateway Installation Manual for details.

NOTE

For 6K and 8KA Series devices, the software update Package 6.62 allows the 6K/8KA readers to work in a 57.6 Kbps (Low-Speed) ID-NET™ network through a passive CBX100 connection box as Slaves. This requires the entire ID-NET™ network to be configured with this baudrate.

OPENING THE SC4000

To install the SC4000 or during normal maintenance, it is necessary to open it by unscrewing the four cover screws:

CAUTION

The SC4000 must be disconnected from the power supply during this operation.

MECHANICAL INSTALLATION

SC4000 can be mounted to various wooden or plastic surfaces using two self-threading screws (3.9 x 45 mm) and washers.

Mounting to other surfaces such as concrete walls or metallic panels requires appropriate user-supplied parts (screws, screw anchors, nuts, etc).

SC4000 can also be mounted to a DIN rail or a Bosch Frame using the following mounting accessories: BA100 (93ACC1821), BA200 (93ACC1822).

The diagram below gives the overall dimensions of the SC4000 and shows the two mounting through-holes.

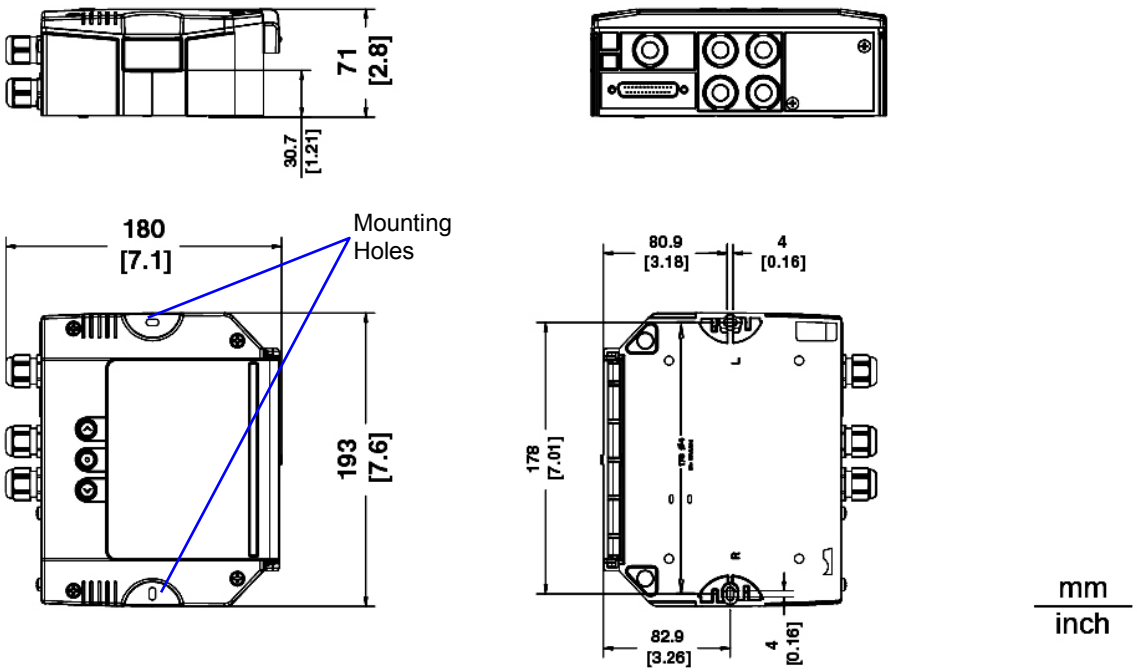


Figure 2 - Overall Dimensions

POWER SUPPLY

Power is supplied to the SC4000 through the Vdc and GND pins provided on the spring clamp connector.

The power switch (see Figure 3) switches the power supply ON or OFF for both the SC4000 and the connected reading device.

CAUTION

The power switch does not control power to the Vdc/GND, +V/-V spring clamps, therefore any devices connected to these signals (i.e. external trigger, encoder, etc.), are live and are not protected from polarity inversion. Disconnect the power supply when working inside the SC4000.

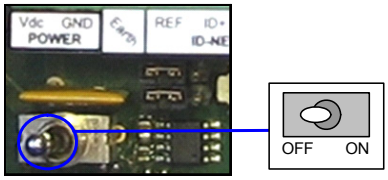


Figure 3 - Power Switch ON/OFF Positions

NOTE

Vdc is electrically connected to +V, just as GND is electrically connected to -V. This is useful for supplying external trigger, inputs and outputs from the SC4000 power source, however +V and -V signals should not be used as power supply inputs to the SC4000.

The power supply must be between 10 and 30 Vdc only.

SYSTEM WIRING

The connection and wiring procedure for SC4000 is described as follows:

1) Open the SC4000 by unscrewing the four cover screws.

2) Verify that the SC4000 power switch is off (see Figure 3).

3) Unscrew the compression connectors and pass all the system cables through them into the SC4000 housing.

4) To connect the power and input/output signals:

   - Prepare the individual wires of the system cables by stripping the insulation back approximately 1 cm.
   - Using a device such as a screwdriver, push down on the lever directly next to the clamp (see Figure 4).
   - Insert the wire into the clamp and release the lever.

   The wire will now be held in the spring clamp.

5) Tighten the compression connector nuts so that the internal glands seal around the cables.

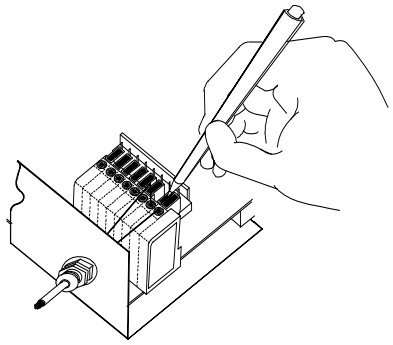


Figure 4 - System Cable Connections

Flexible stranded wire should be used and must meet the following specifications.

All positions: 24 - 16 AWG 0.2 - 1.5 mm²

The SC4000 spring clamp connector pinouts are indicated in the Pinout table.

Refer to the reading device Installation Manual for signal details.

PINOUT

Pinouts				
Group	**Name**	**Function**		
Input Power	Vdc	Power Supply Input Voltage +		
	GND	Power Supply Input Voltage -		
	Earth	Protection Earth Ground		
External Trigger Input	+V	Power Source – External Trigger		
	I1A	External Trigger A (polarity insensitive)		
	I1B	External Trigger B (polarity insensitive)		
	-V	Power Reference – External Trigger		
Generic Input	+V	Power Source – Inputs		
	I2A	Input 2A (polarity insensitive)		
	I2B	Input 2B (polarity insensitive)		
	-V	Power Reference – Inputs		
Outputs	+V	Power Source – Outputs		
	-V	Power Reference – Outputs		
	O1+	Output 1+		
	O1-	Output 1-		
	O2+	Output 2+		
	O2-	Output 2-		
Other I/O	O3A	Output 3A (polarity insensitive)		
	O3B	Output 3B (polarity insensitive)		
	+V	Power Source – Other I/O		
	I3A	Input 3A (polarity insensitive)		
	I4A	Input 4A (polarity insensitive) (to 25-pin connector only)		
	-V	Power Reference – Other I/O		
	I34B	Input 3B and 4B (common) (polarity insensitive)		
	I34B	Input 3B and 4B (common) (polarity insensitive)		
Auxiliary Interface (1)	TX	Auxiliary Interface TX		
	RX	Auxiliary Interface RX		
	SGND	Auxiliary Interface Reference		
ID-NET™	REF	Network Reference		
	ID+	ID-NET™ network +		
	ID-	ID-NET™ network -		
Network	Shield	Network Cable Shield		
Data Source Auxiliary Interface (2)	TX	Data Source Aux TX		
	RX	Data Source Aux RX		
	SGND	Data Source Aux Reference		
Host 1 Interface (3)		**RS232**	**RS485FD**	**RS485HD**
		TX	TX+	RTX+
		RTS	TX-	RTX-
		RX	*RX+	
		CTS	*RX-	
		SGND	SGND	SGND
Host 2 Interface (4)		**RS232**	**RS485FD**	**RS485HD**
		TX	TX+	RTX+
		RTS	TX-	RTX-
		RX	*RX+	
		CTS	*RX-	
		SGND	SGND	SGND

***** Do not leave floating, see Reading Device Reference Manual for connection details.

(1) The Auxiliary Interface group is connected to the 9-pin Auxiliary connector and is used for configuring the SC4000 parameters through Genius™, the multilanguage software tool.

(2) The Data Source Auxiliary group is connected to the 9-pin Data Source connector and is used for configuring the reading device parameters through Genius™, the multilanguage software tool.

(3) Host 1 Interface is for data transmission to Host.

(4) Host 2 Interface is for data transmission to Host or Data Source for additional reading device (e.g. Hand Held Reader).

The input power signals **Vdc**, **GND** and **Earth** as well as the network signals **REF**, **ID+**, **ID-** and **Shield**; and **RTX+**, **RTX-** and **SGND** are repeated to facilitate system cabling. In this way the power and network busses can enter and exit the SC4000 from different spring clamps but be physically connected together.

NOTE

To avoid electromagnetic interference:
- *Connect SC4000 Protection Earth (Earth) to a good earth ground.*
- *Connect the reading device chassis to earth ground through the jumper, (default setting, see*Figure 5*).*
- *Connect the Network Cable Shield (Shield) to Filtered Earth through the jumper (default setting, see* ***Error! Reference source not found.****).*

CAUTION

Do not connect to the Host 1 Interface spring clamp terminals if using Host Interface Modules (Fieldbus and non Fieldbus).

JUMPER SETTINGS

HOST 2 SHIELD JUMPER SETTINGS

The Host Interface 2 shield (Shield) can be connected to Earth Ground (Earth) either directly or through a filter circuit. If the jumper is left open, the network cable shield (Shield) is floating.

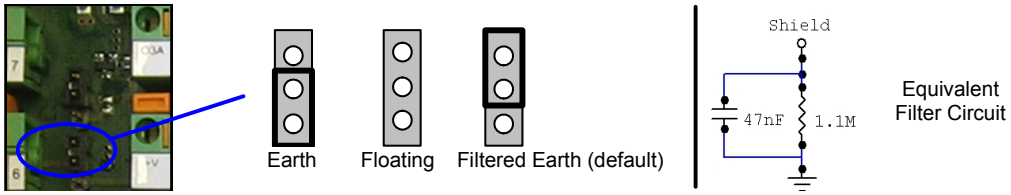


Figure 5– Host 2 Shield Jumper Settings

SOURCE CHASSIS GROUNDING JUMPER SETTINGS

The reading device chassis grounding method can be selected by positioning a jumper (see Figure 6). In this way the reading device chassis can be connected to earth ground (only if pin Earth is connected to a good earth ground). For all reading devices except 6K/8K, the chassis can alternatively be connected to the power supply ground signal (GND) or it can be left floating but, in this case, the jumper must be removed. For 6K or 8K scanners the chassis is internally connected to GND.

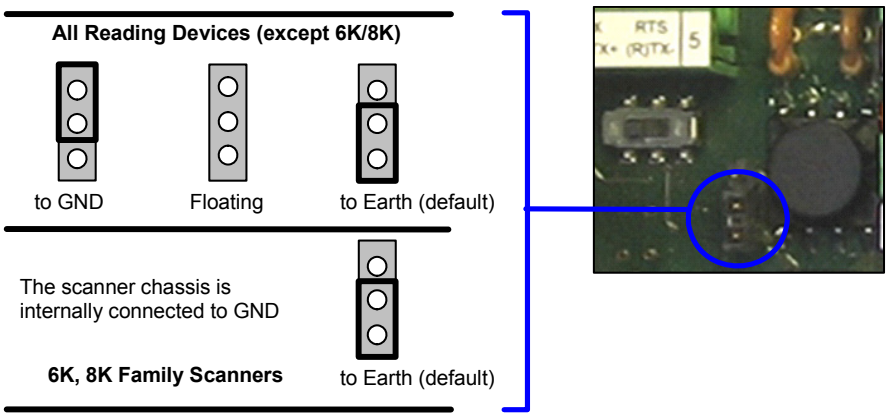


Figure 6 – Chassis Grounding

ID-NET/HOST 1 SHIELD JUMPER SETTINGS

The Network shield (Shield) can be connected to Earth Ground (Earth) either directly or through a filter circuit. If the jumper is left open, the network cable shield (Shield) is floating.

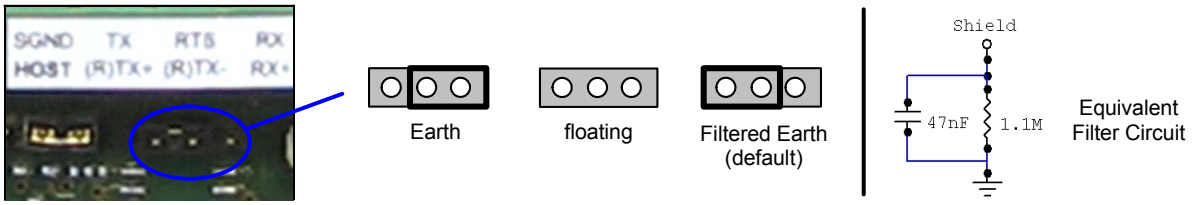


Figure 7 – ID-NET/Host 1 Shield Jumper Settings

NETWORK BUS TERMINATION

ID-NET™

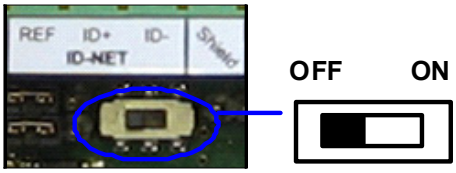


Figure 8 – ID-NET™ Termination Resistance Switch

The ID-NET™ termination resistance switch enables or disables the insertion of the bus termination resistor for ID-NET™ network applications.

CAUTION

In ID-NET™ network applications the termination resistor must be enabled ONLY on the first and last devices of the chain. On all the other devices this resistor MUST NOT be enabled (OFF).

NETWORK PARAMETER SELECTORS

The integrated backup and restore module provides four rotary switches which allow easy manual selection of network parameters.

As shown in Figure 9 , the Net Type rotary switch allows Network Type selection , while three dedicated rotary switches (X1, X10, X100) can be used for manually selecting Addressing and Baud Rate.

The backup and restore module also includes an additional slide switch which allows write protection for security purposes.

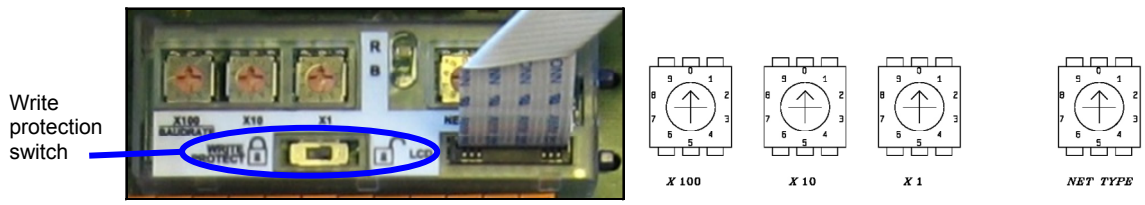


Figure 9 – Network Parameter Selectors

NETWORK TYPE SELECTION

The network type depends on the application layout and installed accessories.

Net Type Switch
0 = None (no network present)
1 = Ethernet/IP
2 = Profibus
3 = DeviceNet
4 = CC-Link
5 = Profinet
6 = CANopen
7 = Software Configuration Controlled Host Interface Network
8 = ID-NET™ Slave Synchronized
9 = ID-NET™ Slave Multidata

The Net Type selector switch allows setting the ID-NET™ network:

- ID-NET™ Masters communicating with the Host through the main serial interface, and all other non network applications must be set to **None (0)**.
- ID-NET™ Slaves must be set to **Slave Synchronized (8)** or **Slave Multidata (9)** depending on the ID-NET™ network Topology Role (same as Master).

Through the SC4000, several types of accessory Host Interface Modules are available to connect the SC4000 ID-NET Master to a Host network as a Slave node of that network. **Note: ID-NET™ Slaves (positions 8 and 9) exclude Host network configuration.**

The Net Type switch settings **(1 – 6)** assign the Host network type through the hardware switch; the Node Address is assigned by the Network Address Selection switches. These settings override the software configuration and therefore when used, **must** match the actual Host Interface Module.

The Net Type switch setting **Software Configuration Controlled Host Interface Network (7)** allows the Host network type and Node Address to be set through the software configuration program; the hardware switches are ignored. This position is valid for all the Host network types including Module types that have no hardware switch position (i.e. Modbus TCP or Ethernet TCP/IP).

NETWORK ADDRESS SELECTION

Figure 10 – Address Selection Switches

Hardware network address selection is provided for rapid installation of ID-NET™ networks and for some of the Host Interface Modules. These switch settings are read at each power-up or reset, and override software configuration settings except where specified otherwise. Valid address selection depends on the network type:

Ethernet/IP and Profinet
The Ethernet IP or Profinet address refers to the last three digits of the IP address (i.e. 172.16.11.xxx). The valid selection range is from 000 to 255. Address selections outside of this range are not accepted by the network.

IP Addressing
There are a few special switch settings that allow the software to determine the IP address for Ethernet IP and Profinet interfaces. These settings correspond to the *IP Addressing* parameter in Genius™.

777 = Remote Assignment through the IPConfig application available on the reader CD-ROM.
888 = Static Assignment – set manually through Genius™
999 = set through a DHCP server

Profibus
The valid selection range for the Profibus address is from 000 to 126. Address selections outside of this range are not accepted. Address 126 is a special address which allows the Profibus Master, through software, to set the node address in the range from 000 to 125.

DeviceNet
The valid selection range for the DeviceNet address is from 00 to 64. Address selections outside of this range are not accepted. The x100 switch is ignored. Address 64 is a special address which allows the DeviceNet Master, through software, to set the node address in the range from 00 to 63.

CC-Link
The valid selection range for the CC-Link address is from 01 to 64. Address selections outside of this range are not accepted. The x100 switch is ignored. See the Help On-Line *Node Address* parameter for address restrictions.

CANopen
The valid selection range for the CANopen address is from 001 to 128. Address selections outside of this range are not accepted. Address 128 is a special address which allows the CANopen Master, through software, to set address and baud rate.

ID-NET™
The valid selection range for the ID-NET™ Slave addresses is from 01 to 31. Address selections outside of this range are not accepted by the ID-NET™ network. The x100 switch in this case refers to the ID-NET™ baudrate.

9-PIN SERIAL INTERFACE CONNECTORS

AUXILIARY INTERFACE

All SC4000s have an RS232 auxiliary interface available on the 9-pin connector below, which can be linked to another host computer or an external system. This interface is mainly used for SC4000 configuration through Genius™, the multilanguage software tool. Diagnostics and program downloading can be performed from this interface.

Connections can be made to a PC or Laptop using a straight through cable or a USB-RS232 converter.

Figure 11 - 9-pin D-Sub Female Connector

With reference to the 9-pin connector of Figure 14, the following pins are used to connect the RS232 auxiliary interface:

Pin	Name	Function
2	TX	Auxiliary Interface Receive Data
3	RX	Auxiliary Interface Transmit Data
5	SGND	Signal Ground
1, 4, 6, 7, 8, 9		N.C.

NOTE

Do not connect the Aux Interface to the SC4000 spring clamp connectors and the 9-pin connector simultaneously.

DATA SOURCE AUXILIARY INTERFACE

The Data Source Auxiliary Interface available on the 9-pin connector below can be used for configuration through Genius™ of an optional external reading device connected through the 25-pin connector.

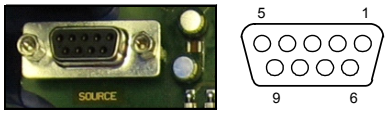


Figure 12 - 9-pin D-Sub Female Connector

With reference to the 9-pin connector of Figure 15, the following pins are used to connect the Data Source Auxiliary Interface:

Pin	Name	Function
2	TX	Data Source Aux Interface Receive Data
3	RX	Data Source Aux Interface Transmit Data
5	SGND	Signal Ground
1, 4, 6, 7, 8, 9		N.C.

INDICATOR LEDS

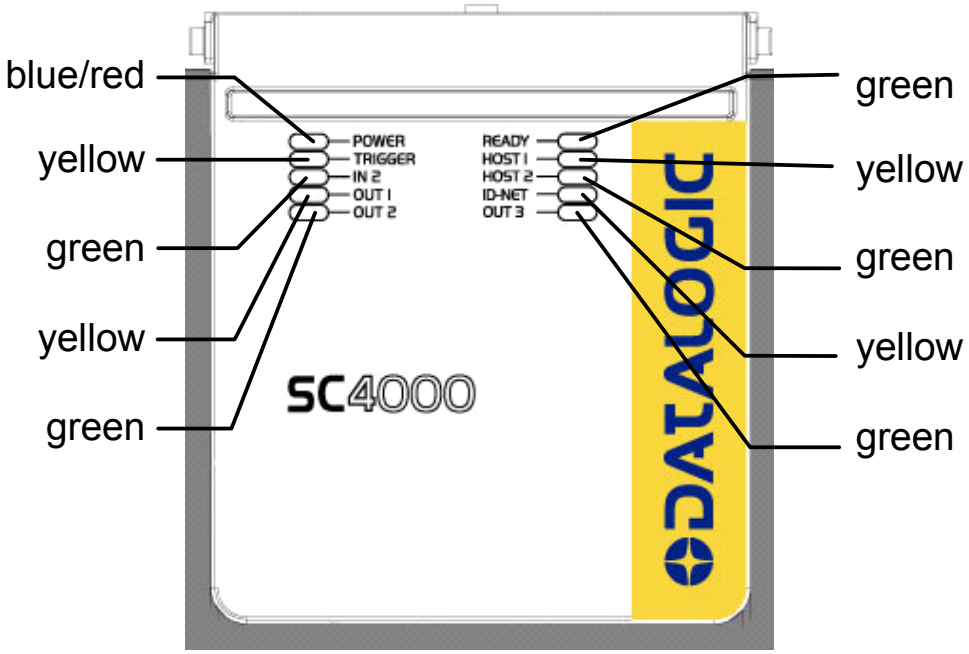


Figure 13 – Indicator LEDs

There are ten Indicator LEDs which signal power and I/O activity and are visible from the SC4000 outside cover.

The Power LED is blue when power is correctly applied to the SC4000 and the power switch is turned on.

This LED is red if power polarity is incorrect. In this case the connected reading device and optional Backup Module are protected.

CAUTION

If external I/O devices are powered through SC4000 (connected to +V/-V), they are not protected from polarity inversion.

The Ready LED is on after the power-up or reset sequence is complete.

The Host 1, Host 2, and ID-NET LEDs are active when communicating on the respective interface (fast blinking).

The remaining I/O LEDs are active when the respective I/O is active depending on the software configuration setting.

SC4000 ID-NET™ CONTROLLER LAYOUTS

GENERAL SYSTEM LAYOUT

The following figure shows the typical layout.

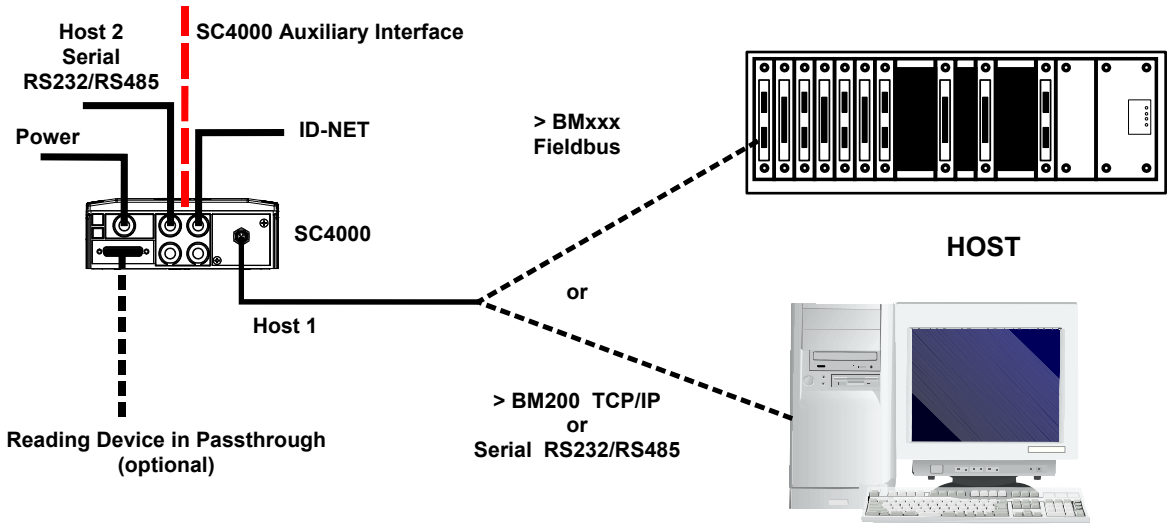


Figure 14 – General System Layout

The general system layout allows the SC4000 ID-NET Controller to connect a network of readers (scanners and/or imagers), collect their information and send it to a Host over a serial or TCP/IP or Fieldbus interface.

Generally the external system Host is connected to the SC4000 Host 1 interface. The ID-NET interface connects to the readers network. Host 2 can be connected to a secondary serial interface Host, monitor, etc.

The dotted lines in the figure refer to optional hardware configurations.

A portable PC can be quickly connected to the SC4000 Auxiliary port through the internal 9-pin connector for SC4000 configuration.

An additional optional reading device, such as a Hand-Held reader, can be connected to the 25-pin connector in passthrough towards the Host. The reading device auxiliary interface signals are also available on the internal spring clamp connectors.

After making system cabling and switch settings, switch ON the SC4000 power switch (see Power Supply). The Power LED turns on (blue) when the power connection has the correct polarity. The Power LED turns on (red) in case of wrong polarity.

After SC4000 configuration and system functioning has been verified, close the SC4000 using the four cover screws.

SC4000 ID-NET™ MULTIDATA MASTER TO SERIAL HOST

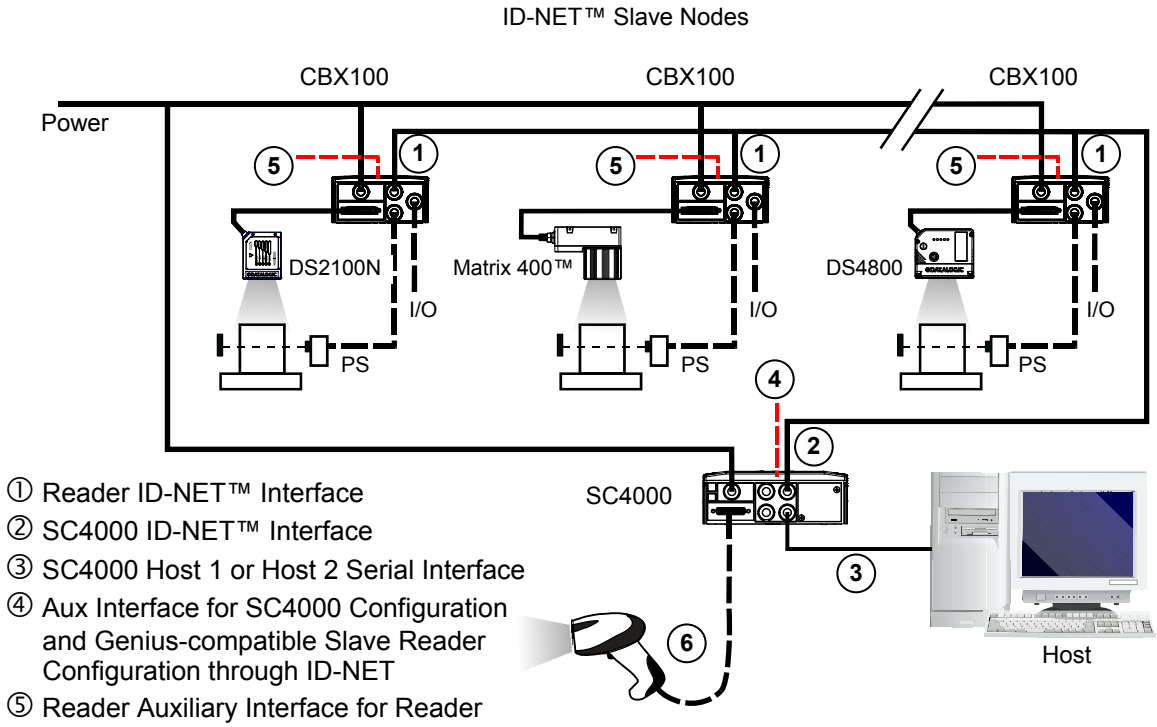
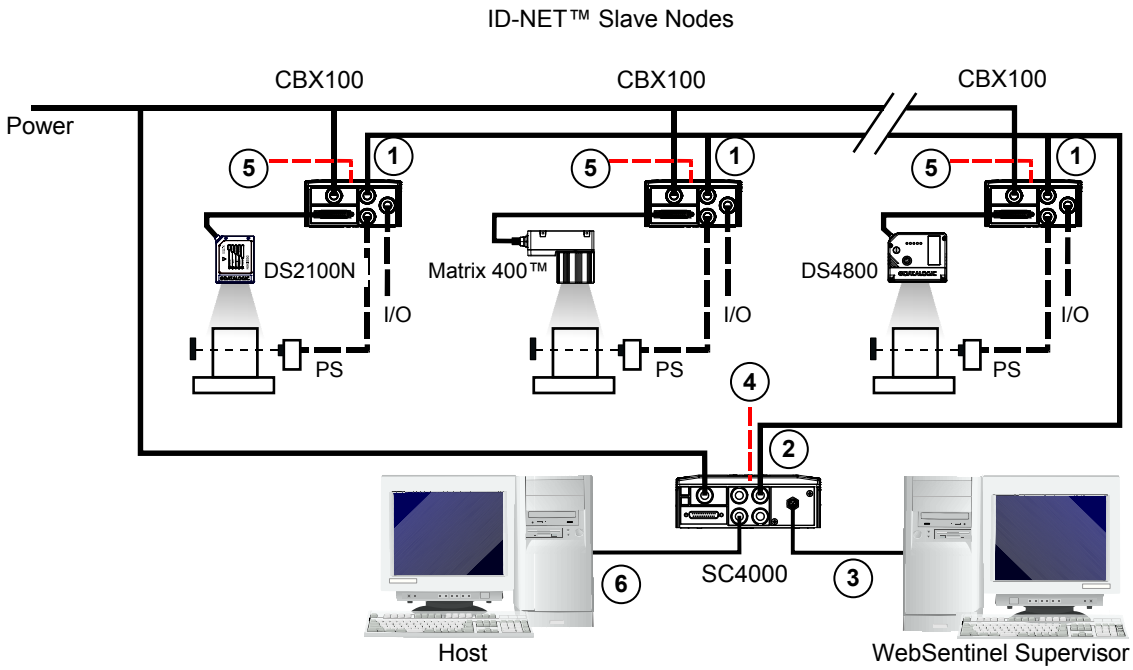


Figure 15 – SC4000 ID-NET™ Multidata Master to Serial Host

Layout / SC4000 Parameters	ID-NET™ Multidata Master to Serial Host (ex: Host 1 to external Host, HHR to Host 2)	Note
Net Type Rotary Switch	**0**	**Address rotary switches are ignored**
Topology Role	**Master (MULTIDATA)**	
System Layout / Host 1 Serial Port Type	**Serial**	
Communication Settings / Host 1 Serial Port / Line Parameters / Communication Protocol	**Standard**	
Communication Settings / Host 1 Serial Port / Line Parameters / (Electrical Interface, Baud Rate, Parity, Data Bits, Stop Bits)	*Aligned to the Host configuration*	
Communication Settings / Host 2 Serial Port / Line Parameters / Communication Protocol	**Standard**	*Data Source device to Host 2*
Communication Settings / Host 2 Serial Port / Line Parameters/ (Electrical Interface, Baud Rate, Parity, Data Bits, Stop Bits)	*Aligned to the Data Source device configuration*	*Data Source device to Host 2*
Communication Settings / Host 2 Serial Port / Data Pass Through	***<checked>***	*Data Source device to Host 2*
Communication Settings / Host 2 Serial Port / Data Pass Through Options / Data Destination: Host 1 Serial Port	***<checked>***	*Data Source device to Host 2*
Communication Settings / Host 2 Serial Port / Data Pass Through Options / Termination String	*Aligned to the Data Source device configuration*	*Data Source device to Host 2*

SC4000 ID-NET™ MULTIDATA MASTER TO SERIAL HOST AND WEBSENTINEL SUPERVISOR



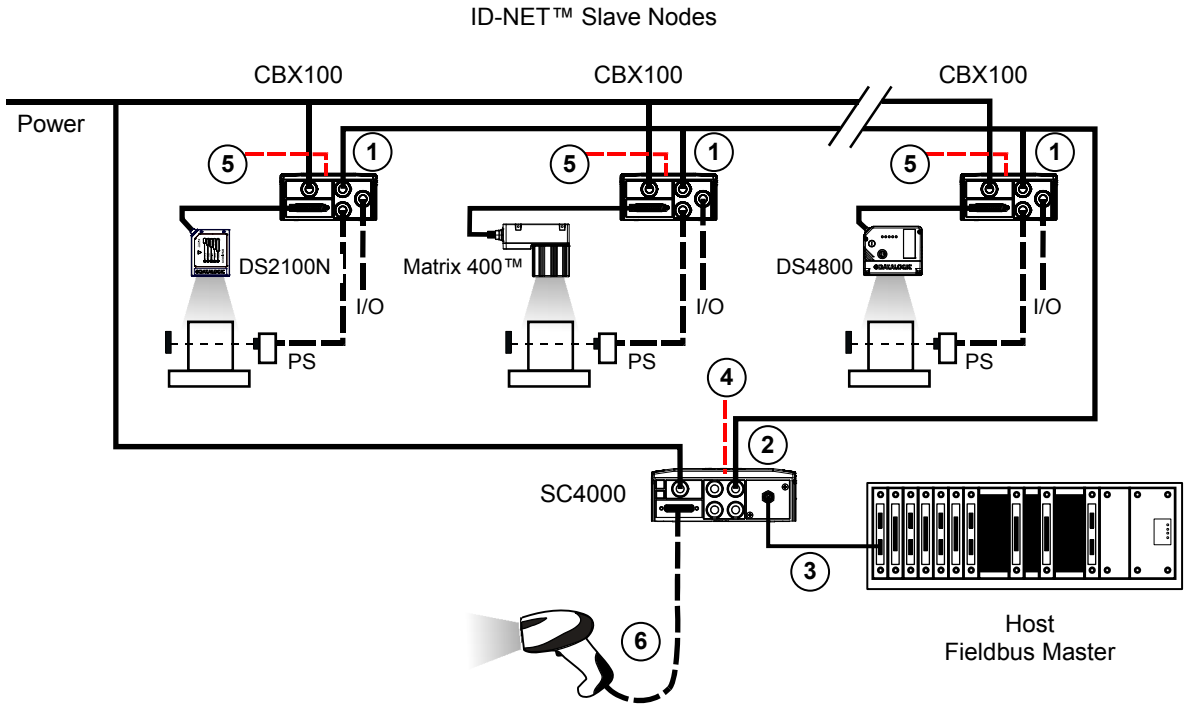
① Reader ID-NET™ Interface
② SC4000 ID-NET™ Interface
③ SC4000 Host 1>BM2x0 Ethernet TCP/IP Module
④ Aux Interface for SC4000 Configuration and Genius-compatible Slave Reader Configuration through ID-NET
⑤ Reader Auxiliary Interface for Reader Configuration
⑥ SC4000 Host 2 Serial Interface

Figure 16 – SC4000 ID-NET™ Multidata Master to Serial Host and WebSentinel Supervisor

Layout / SC4000 Parameters	ID-NET™ Multidata Master to Serial Host and WebSentinel Supervisor	Note
Net Type Rotary Switch	**7**	**Address rotary switches are ignored**
Topology Role	**Master (MULTIDATA)**	
System Layout / Host 1 Serial Port Type	**Ethernet TCP/IP**	**BM2x0 Ethernet TCP/IP interface board plugged in**
Communication Settings / Gateway / Line Parameters/ (*all parameters*)	*Aligned to the LAN configuration of the WebSentinel Supervisor*	
Communication Settings / Gateway / TCP/IP Services / User Socket #1 / Status	***<checked>***	
Communication Settings / Gateway / TCP/IP Services / User Socket #1 / Data Tx	***<NOT checked>***	
Communication Settings / Gateway / TCP/IP Services / User Socket #1 / Use as WebSentinel Client	***<checked>***	
Communication Settings / Host 2 Serial Port / Line Parameters / Communication Protocol	**Standard**	
Communication Settings / Host 2 Serial Port / Line Parameters/ (Electrical Interface, Baud Rate, Parity, Data Bits, Stop Bits)	*Aligned to the Host configuration*	

Communication Settings / Auxiliary Serial Port / Data Tx	***<checked>***	
Communication Settings / Auxiliary Serial Port / Line Parameters/ (all parameters)	*Aligned to the Genius Pc configuration*	

SC4000 ID-NET™ MULTIDATA MASTER/FIELDBUS SLAVE TO HOST FIELDBUS MASTER



① Reader ID-NET™ Interface
② SC4000 ID-NET™ Interface
③ SC4000 Host 1>BMxxx Fieldbus Module
④ Aux Interface for SC4000 Configuration and Genius-compatible Slave Reader Configuration through ID-NET
⑤ Reader Auxiliary Interface for Reader Configuration
⑥ Reader in Pass Through on Host 2 or Source Auxiliary Interface

Figure 17 – SC4000 ID-NET™ Multidata Master/Fieldbus Slave to Host Fieldbus Master

Layout / SC4000 Parameters	ID-NET™ Multidata Master/Fieldbus Slave to Host Fieldbus Master (ex: PROFIBUS)	Note
Net Type Rotary Switch	**2**	**Fieldbus Interface Board = BM3x0**
Address Rotary Switches	**X100 = 0, 1** **X10 = 0..9** **X1 = 0..9**	**Address Range= 00..126** (*Aligned to the Fieldbus Master configuration*)
Topology Role	**Master (MULTIDATA)**	
System Layout / Host 1 Serial Port Type	**Profibus**	
Communication Settings / Gateway / Status	***<checked>***	
Communication Settings / Gateway / Data Tx	***<checked>***	
Communication Settings / Gateway / Bus Communication / Node Address	*Aligned to the Fieldbus Master configuration*	

Communication Settings / Gateway / Bus Communication / (Master Input Area Size, Master Output Area Size, Data Flow Control, Data Consistency)	*Coming from the GSD modules configuration*	GSD File = **DLA_0BAC.gsd**
Communication Settings / Auxiliary Serial Port / Line Parameters/ (all parameters)	*Aligned to the Data Source device configuration*	*Data Source device to the Auxiliary port*
Communication Settings / Auxiliary Serial Port / Data Pass Through	***<checked>***	*Data Source device to the Auxiliary port*
Communication Settings / Auxiliary Serial Port / Data Pass Through Options / Data Destination: Gateway	***<checked>***	*Data Source device to the Auxiliary port*
Communication Settings / Auxiliary Serial Port / Data Pass Through Options / Termination String	*Aligned to the Data Source device configuration*	*Data Source device to the Auxiliary port*

TECHNICAL FEATURES

ELECTRICAL FEATURES	
Supply Voltage	10 to 30 Vdc*
Power Consumption	0.8 - 0.5 A
Limited Current Consumption SC4000 + I/O devices + optional reading device consumption (see related device manuals)	2.5 A
COMMUNICATION INTERFACES	
Host 1 Interface	RS232/RS485 up to 115.2 Kbit/s
Auxiliary	RS232 up to 115.2 Kbit/s
Host 2 Interface	RS232/RS485 up to 115.2 Kbit/s
ID-NET™	RS485 Half Duplex up to 1 Mbaud
Communication Protocols	Datalogic Application Driver (DAD Driver)
USER INTERFACE	
LED Indicators	Power On/Polarity Error (blue/red) Trigger (yellow) IN2 (green) OUT1 (yellow) OUT2 (green) Ready (green) Host 1 (yellow) Host 2 (green) ID-NET (yellow) OUT3 (green)
Display & Keypad	20 x 4 characters & 3 keys
Configuration Modes	Genius™ utility program Genius™ based Host Mode Programming
PHYSICAL FEATURES	
Mechanical Dimensions	193 x 180 x 71 mm (7.6 x 7.1 x 2.8 in.)
Weight	960 g. (33.86 oz.)
ENVIRONMENTAL FEATURES	
Operating Temperature	0° to 50 °C (+32° to 122 °F)
Storage Temperature	-20° to 70 °C (-4° to 158 °F)
Humidity max.	90% non condensing
Vibration Resistance EN 60068-2-6	14 mm @ 2 to 10 Hz; 1.5 mm @ 13 to 55 Hz; 2 g @ 70 to 200 Hz; 2 hours on each axis
Bump Resistance EN 60068-2-29	30 g; 6 ms; 5000 shocks on each axis
Protection Class EN 60529	IP65 **

The features given are typical at a 25 °C ambient temperature (if not otherwise indicated).

* for further details about minimum/maximum supply voltage refer to the manual of the connected reading device, since the minimum supply voltage required may be >10.

** when compression connectors and reading device or protection cap are correctly connected.
If Host Interface Modules are used, only correctly installed IP65 models guarantee IP protection. Protection is not guaranteed when Standard Host Interface Modules are mounted.

COMPLIANCE

POWER SUPPLY

This product is intended to be installed by Qualified Personnel only.

This device is intended to be supplied by a UL Listed NEC Class 2 power source.

CAUTION

Total power consumption is given by adding the SC4000 power consumption to that of all the devices powered through the SC4000 (reading device, P.S., I/O). Refer to the manual of the connected devices for details about minimum/maximum supply voltage and power consumption.

Each SC4000 supports only 1 optional reading device on the 25-pin connector + system accessories.

CE COMPLIANCE

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC COMPLIANCE

Modifications or changes to this equipment without the expressed written approval of Datalogic could void the authority to use the equipment.

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.

DECLARATION OF CONFORMITY

CE 09

Datalogic Automation S.r.l.
Via S. Vitalino 13
40012 - Lippo di Calderara
Bologna - Italy

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

SC4000 ID-NET™ Controller; 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 / and / et / und / y **92/31/EEC, 93/68/EEC** emendamenti successivi / further amendments / ses successifs amendements / späteren Abänderungen / succesivas 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 (Class A ITE), September 1998: INFORMATION TECHNOLOGY EQUIPMENT RADIO DISTURBANCE CHARACTERISTICS LIMITS AND METHODS OF MEASUREMENTS

EN 61000-6-2, September 2005: ELECTROMAGNETIC COMPATIBILITY (EMC) PART 6-2: GENERIC STANDARDS - IMMUNITY FOR INDUSTRIAL ENVIRONMENTS

Lippo di Calderara, April 21st, 2009

Lorenzo Girotti
Product & Process Quality Manager