

VSC-L30

Vision System Computer

EN



1 Safety

The IDL System and the VSC-L30 must be installed, commissioned and serviced only by adequately qualified personnel and in line with electrical engineering requirements. Read the Quickstart of VSC-L30 and Ruler E before starting the installation and make sure the Operating Instructions for the IDL system can be accessed during installation. Risk of injuries due to electrical current! The VSC-L30 is connected to the power supply (100 to 264 V AC/50 to 60 Hz).
 ▶ Observe current safety regulations when working with electrical equipment.
 ▶ Make sure the equipment has been deenergized before performing any installation work.

2 Product Specification

The IDL system for item detection performs an analysis of letters and parcels on continuous belts, tilt trays and cross belt conveyor systems.

IDL uses data from a Ruler E, which is mounted above the conveyor system. The Vision System Computer, VSC-L30 is used to analyze image data and communicate of results in the IDL System. Inside the VSC-L30 an iPC and a MSC800 control unit is mounted. In the VSC-L30 iPC, the Ruler E data is compared to a background reference where the difference is subjected to image processing that determines the presence of objects.

When objects are detected the result values are calculated and reported to the MSC800 controller unit. Triggers, Encoders and other SICK devices in the same installation are also connected to the MSC800. When all results are ready the MSC800 sends the final result message to the client control system.

3 System Requirements

- PC for configuration and remote access of IDL:
- ▶ PC Pentium III 500MHz minimum
 - ▶ RAM: 512 MB minimum (1 GB recommended)
 - ▶ Windows XP Professional SP3, Windows 7 Professional (32 / 64 bit)
 - ▶ Free disk space: 400 MB minimum
 - ▶ Monitor: 800 x 600 px, minimum 256 colors (65,536 colors (16 bit Hi color) recommended)
 - ▶ Ethernet card 100 Mbit/s or faster
 - ▶ USB

For access directly to the Ruler please see requirements for Ranger Studio in the Operating instructions.

4 Installation

A thorough assembly and installation guide is included in the Operating Instructions.

Important during installation:

- ▶ Ensure that all laser safety requirements for the Ruler E camera is fulfilled. See the Ruler E user documentation for more information.
- ▶ The laser of the Ruler may be activated as soon as the Ruler E is powered on. Avoid direct exposure to the laser beam. Avoid looking at the laser reflections.
- ▶ Triggering parameters can be used to delay trigs for up to a cell length. The constraints of the triggering parameters should be considered when placing the photoelectric switch.
- ▶ When delivered, the VSC-L30 is prepared for running in cell mode. If you intend to use the system in continuous mode, move the cables going to the encoder converter from OUT_2 and OUT_3 on the MSC800 to INC_1 and INC_2 respectively.
- ▶ If the photoelectric switch or encoder is power supplied from the MSC800, make sure that the DIP switches SGND_4 - GND or SGND_5 - GND are set to ON.

5 Commissioning

The IDL system must be commissioned by adequately qualified personnel only.

The following software is used for the commissioning:

- ▶ Ranger Studio Installed on the iPC
- ▶ IDL application Installed on the iPC
- ▶ SOPAS Download from www.sick.com, and install on the PC used for configuration.

In-depth IDL Operating instructions are available for download from SICK. Access is given upon purchase of an IDL system.

6 Service and Maintenance

- ▶ Spare parts for the devices that are present in the Item Detection system are handled as standard SICK products (Ruler E, iPC, MSC800, Ethernet switch, power supply).

7 Further Information

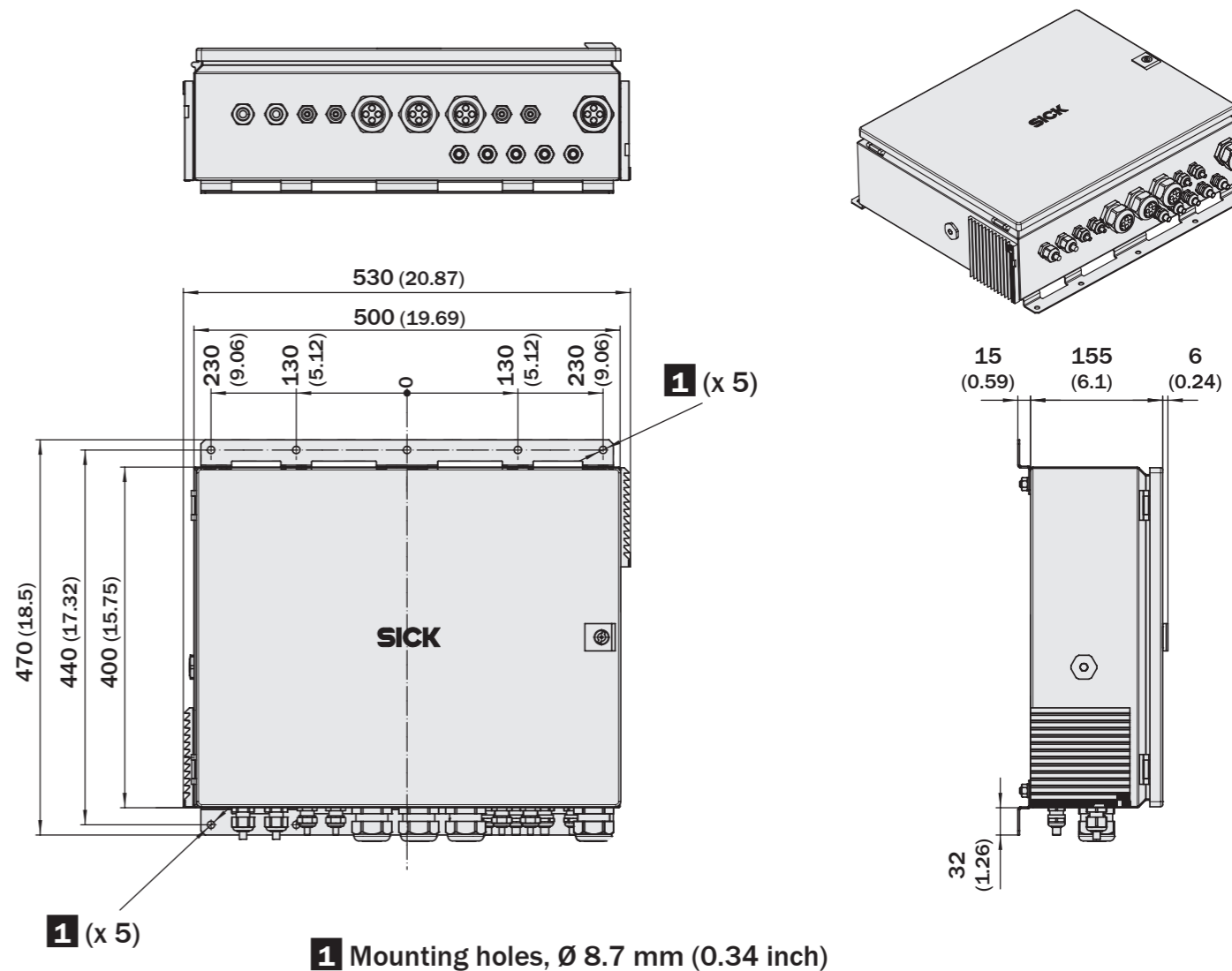
SICK uses standard IP technology for its products, e.g. IO Link, industrial PCs. The focus here is on providing availability of products and services. SICK always assumes that the integrity and confidentiality of data and rights involved in the use of the above-mentioned products are ensured by customers themselves. In all cases, the appropriate security measures, e.g. network separation, firewalls, antivirus protection, patch management, etc., are always implemented by customers themselves, according to the situation.

For more information on the Item Detection system, please refer to the Operating Instructions.

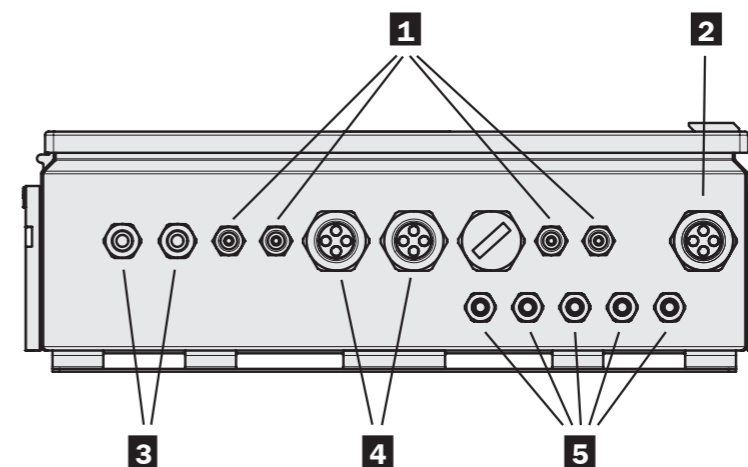
For support issues, please contact your local sales office. More product and order information is also available on:

www.sick.com

A Cabinet Dimensional Drawings [mm (inch)]



B Cable Entries

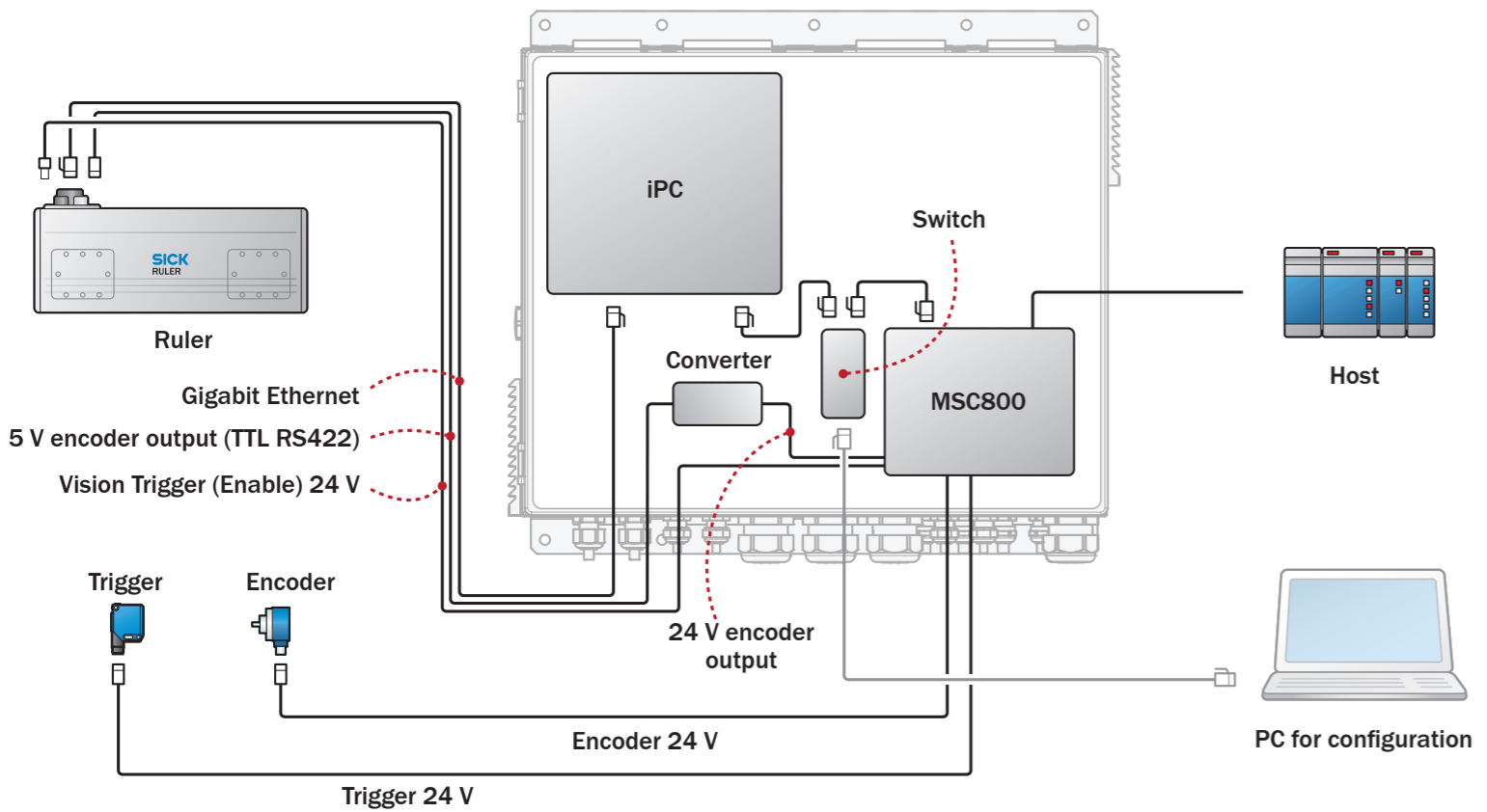


Cable entries	Accepted cable diameters
1	4 x M fitting, metal, M16 x 1.5 (0.06 inch) 5 ... 10 mm (0.2 ... 0.39 inch)
2	1 x M fitting, plastic, M25 x 1.5 (0.06 inch) 13 ... 18 mm (0.51 ... 0.71 inch)
3	2 x M fitting, plastic, M20 x 1.5 (0.06 inch) 6 ... 12 mm (0.24 ... 0.47 inch)
4	2 x M fitting, plastic, M32 x 1.5 (0.06 inch) 18 ... 25 mm (0.71 ... 0.98 inch)
5	5 x M fitting, metal, M16 x 1.5 (0.06 inch) 3 ... 7 mm (0.12 ... 0.28 inch)

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More representatives and agencies at www.sick.com

C Connecting Devices



D Technical Data

Features		Features	
Camera head	Ruler E	Operating voltage	100 ... 264 V AC/50...60 Hz
User interface:	Ranger Studio, IDL, SOPAS	Power supply module output voltage	24 V DC
Max encoder frequency	30 kHz	Power supply module current output	30 V
Encoder interface	24 V, HTL	Housing material	Steel, surface painted light grey
MTBF of the device	> 80000 h	Enclosure rating	IP 65
Host data interface	RS232, RS422/485, Ethernet, data output format can be adjusted	Protection class	Class 3
Data transmission rate, serial	0.3 ... 57.6 kBd	Dimensions (LxWxH)	470 x 530 x 176 mm (18.5 x 20,87 x 6.93 in)
Data transmission rate, Ethernet	10/100 Mbit/s	Weight	Approx 15 kg
Data transmission rate, PROFIBUS-DP	12 MBd	Ambient temperature	
Protocols	SICK-IDL, Crisplant S2000, Demag sorter protocol, application specific on request	operation	0 ... 40 °C
Ethernet data interface	10/100 Mbit/s, TCP/IP, FTP, half/full duplex	Storage	-20 ... +70 °C
		Max. rel. Air humidity	95%, non-condensing

E Cables

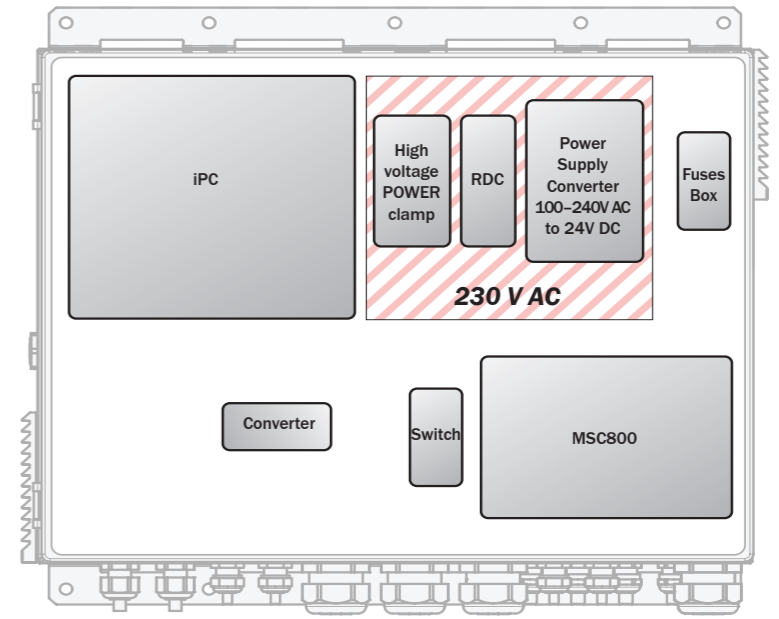
Item	Part.No.
Ruler E Encoder cable, M12 8-pin - open 5 m	6029331
Ruler E Power I/O cable, M12 8-pin - open 5 m	6020993
Ruler E Gigabit Ethernet cable, Cat. 6, 5 m	6032321

Other cable lengths are available

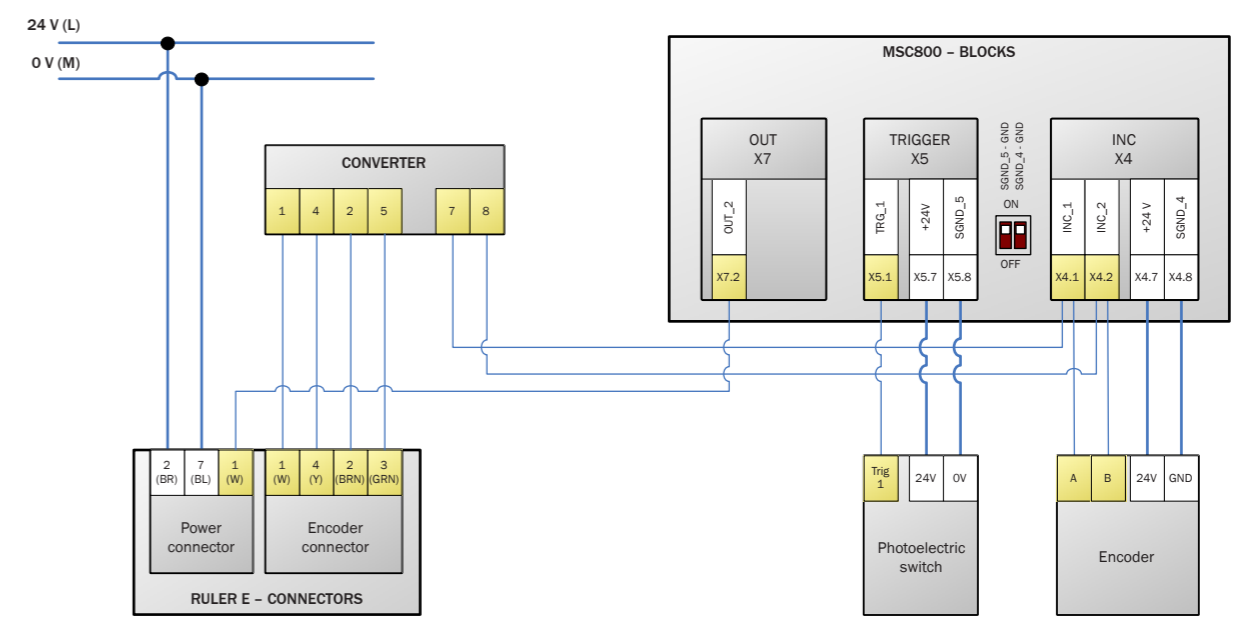
F Device IP Addresses

IP Addresses	
iPC - Ruler network	192.168.0.1
iPC - MSC800 network	192.168.1.1
Ruler E	192.168.x.x
MSC800	192.168.1.2

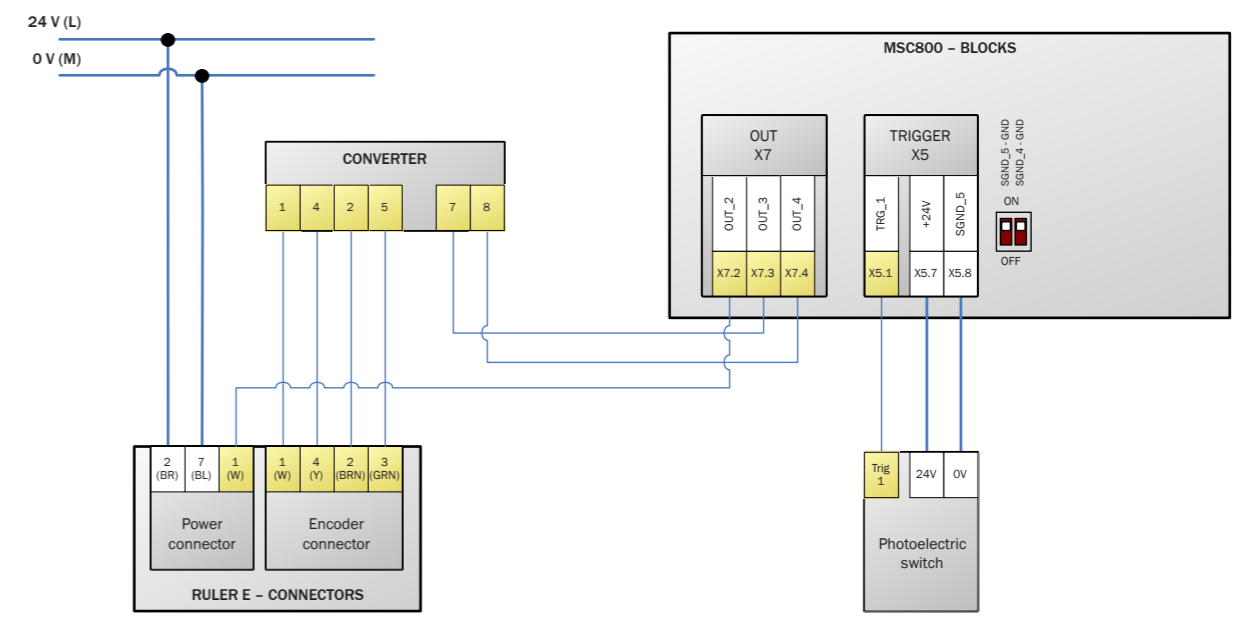
G Cabinet Layout and Connections



Continuous Mode



Cell Mode



(Colors are valid for cable types STL-1208 and DOL-1208 respectively)