

**Performances and characteristics (summary)****Environmental operating conditions:**

Temperature:	from 15°C to 40°C
Humidity (without condensation):	from 20% to 80% R.H.

**Voltage input L70:**

Max 19,5 Vac

**Power Supply AC/AC:**

Standard	230Vac±10%	16Vac	50+60Hz	17,5VA max
Standard	115Vac±10%	16Vac	50+60Hz	17,5VA max
Option	240Vac±10%	16Vac	50+60Hz	17,5VA max

**Switching Power Supply AC/DC:**

100-240Vac±10%	15Vac	50+60Hz	18VA max
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**Dimensions - Weight:**

Dimensions:	194+150x91x103 mm
Weight:	1.15 Kg

**Modules**

MICR module	magnetic characters E13B, CMC7 Standard ISO 1004
OCR module	optical characters OCR-A, OCR-B, Standard ISO 1073 E13B Standard ISO 1004
BADGE module	1&2 tracks, 2&3 or 1&2&3

**Documents handled**

Height:	30- 110 mm
Length:	80-216 mm
Thickness:	0.08-0.18 mm
Substance:	70 - 120 g/m <sup>2</sup>
Humidity:	40 - 60% (without condensation)

**Serial RS232 interface can be configured with parameters**

150-38400 Bauds  
7/8 Data bit  
Parity no/even/odd  
Stop bit 1/2

**Badge reader module**

Reading speed: 100 - 900 mm/sec  
Maximum thickness of the support: 1.2 mm  
Documents which can be handled:  
Credit card having magnetic stripe encoded with the ISO 7811-1/5 (1&2, 2&3, 1&2&3 tracks)

**DECLARATION of CE CONFORMITY**

The MANUFACTURER: **C.T.S. electronics s.r.l.**  
Corso Vercelli, 332  
10015 Ivrea (To) Italy

Declares under its sole responsibility that the product:

Equipment category: **Information Technology Equipment**  
Product type: **Document Reader**  
Model designation: **L 70**  
Commercial name: **L 70**

Fulfills the essential requirements of Electromagnetic Compatibility and of Electrical Safety as prescribed by the Directives:

89/336/EEC dated 3<sup>th</sup> May 1989 with subsequent amendments (Directive 92/31/EEC dated 28<sup>th</sup> April 1992 and Directive 93/68/EEC dated 22<sup>nd</sup> July 1993); 73/23/EEC dated 19<sup>th</sup> February 1973 with subsequent amendments (Directive 93/68/EEC dated 22<sup>nd</sup> July 1993); since designed and manufactured in compliance with the following European Harmonised Standards:

**EN 55022:** (Limits and method of measurements of radio interference characteristics of Information Technology Equipment)

**EN 61000-3-2:** (Electromagnetic Compatibility – Part 3: Limit – Section 2: Limits for harmonic current emission (equipment input current ≤ 16 A per phase))

**EN 61000-3-3:** (Electromagnetic Compatibility – Part 3: Limit – Section 3: Limitation of voltage fluctuations and flicker in low-voltage supply system for equipment with rated current ≤ 16 A)

**EN 55024:** (Limits and method of measurements of Immunity characteristics of Information Technology Equipment)

**EN 60950:** (Safety of Information Technology Equipment, including electrical business equipment)

Compliance with the above mentioned essential requirements is shown by affixing the CE marking on the product.

**U.S.A.****U.S. FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT****INFORMATION TO THE USER**

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. Change or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Connecting of peripherals required the use of grounded shielded signal cables.

**CANADA****EMI REQUIREMENTS FOR CANADIAN MARKET**

This digital apparatus does not exceed the class A limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the industry of Canada.

**SPECIFICATIONS EMI POUR LE MARCHÉ CANADIEN**

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel prouilleur: "Appareils Numériques", NMB-003 édictée par le Ministre des Communications.

**USER GUIDE  
L70****Document and badge reader**

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Corso Vercelli, 332 - 10015 Ivrea (TO) - ITALY  
Tel.: +39 0125 253611 - Fax +39 0125 235623

**Introduction**

The L 70 is a small sized motorized document reader for MICR and OCR characters printed on the code line and badge reader.

**Version:**

- L70 for MICR Code Line reading (ISO STD 1004)  
for OPTICAL Code Line reading (ISO STD 1073)  
for MICR and OPTICAL Code Line reading (ISO STD 1004 and 1073)

**OPTIONS:**

All versions may include badge reader TRACK 1&2, TRACK 2&3 or TRACK 1&2&3

It is designed to meet reading need for P.O.S., Banking and Financial applications. Communication to the system is made using a serial RS 232-C interface.

**Presentation**

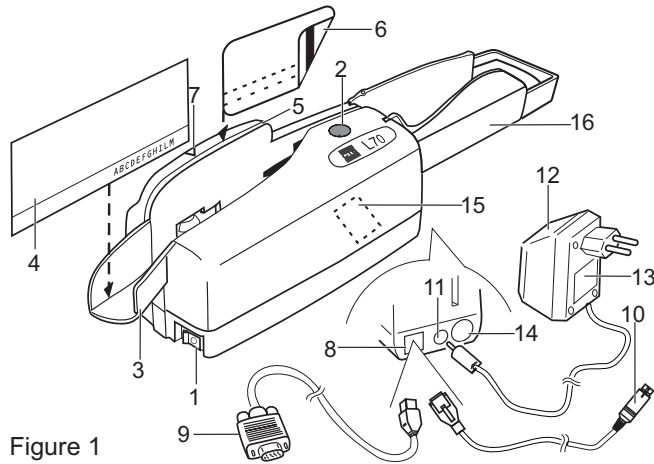


Figure 1

- 1 - Switch power ON-OFF
- 2 - Power ON and operating signal LED
- 3 - Document insertion guide
- 4 - Document in correct position
- 5 - Badge insertion guide
- 6 - Badge in correct position
- 7 - Notch indicating the magnetic strip side
- 8 - Interface connector
- 9 - RS232 serial interface cable
- 10 - PS/2 Keyboard interface cable (option)
- 11 - Power interface
- 12 - Mains transformer
- 13 - Transformer label
- 14 - PS/2 keyboard connector
- 15 - Registration number and supply label
- 16 - Collection channel for outgoing documents

**INSTALLATION AND USE OF THE READER**

Premise: The reader is usually programmed in the factory as it was ordered by the customer. Any firmware or operating mode modification may be carried out by specific programs.

**Unpacking**

The following are provided with the reader:

- document insertion guide
- collection channel for outgoing documents
- mains transformer
- RS232 serial interface cable
- the user guide

**Connecting** (see the figure 1 and 2)

- With RS232 serial interface cable:  
Connecting RS232 line cable (9) to COM port.
- With PS/2 Keyboard interface cable:  
Connecting PS/2 cable (10) to the Keyboard port on the pc.
- connect the PS/2 cable
- reader must be disconnected from power supply
- connect the cable (9 or 10) to the reader connector (8) and to the PC interface connector
- connect the power cable supply (12) into the power connector (11)  
**(with document and badge not present)**
- insert the document insertion guide as per diagram figure 2.
- insert the collection channel for outgoing documents ensuring the two uppermost lugs are placed in position first and then the bottom lug is pushed into place by gently applying pressure until it clicks into place (as per diagram figure 2)

**Reader power up** (see the figure 1)

**CAUTION:**

- Before powering on the reader, make sure that there are no documents in the reader.
- Also make sure that the mains transformer power supply correspond to the mains voltage and the reader power supply voltage.

- Switch ON the reader (1);  
This will RESET the unit:
- switching on the optical head light (if present)
- starting and stopping of the motor
- switching off the optical head light (if present)
- flashing of the LED (2) to indicate the reader is ON

**NOTE:**

If, on power up, the LED (2) does not flash, or if a continuous light is emitted from the optical head, then a failure has occurred. In this case, call a service engineer.

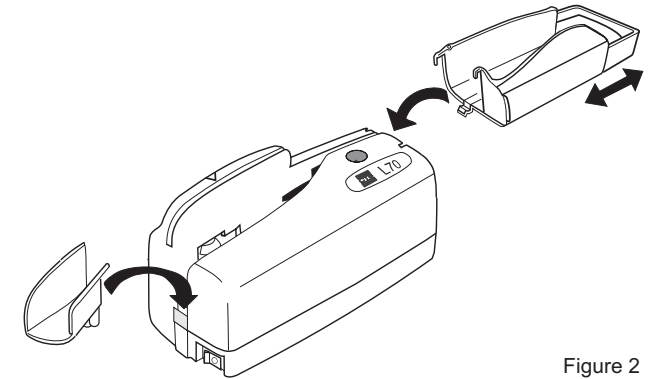


Figure 2

**ON-LINE Operation document** (see the figure 1)

- Insert the document in the reader with the CODE LINE turned as indicated on figure 1.
- Now the document is read and it is send to the collection channel for outgoing documents.  
The L70 Reader decodes the CODE LINE sending data to the PC.

**NOTE:**

If during this operation the LED flashes and an audible "beep" is emitted, then one or more characters from the CODELINE have not been decoded.

If the paper jam occurs, the LED flashes slowly 3 times and the beeper is sounded.

Remove the paper jam.

**ON-LINE Operation badge** (see the figure 1)

- Insert the badge in the guide (5), with the magnetic stripe opposite you and facing the notch (7)
- pull the badge through the reader from right to left or left to right until it exits the other end of the guide
- the L70 Reader decodes the MAGNETIC STRIPE sending data to PC

**NOTE:**

If during this operation the LED flashes and an audible "beep" is emitted, it means the reader is not able to read the MAGNETIC STRIPE.