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Operating Instructions

Model PSC1

Parallel BCD to Serial Data Convertor
The ideal solution for transmitting BCD-derived data over long distances

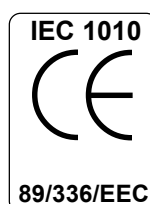


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IMPORTANT INTRODUCTORY NOTES

Thank you for choosing to use a London Electronics Ltd. product. We hope that you will be entirely satisfied with your purchase, and welcome any comments you may have which will help us to improve the ease of use, clarity of this manual, etc. for future shipments.

We invite you to write to us, free of charge, if posted in the United Kingdom, to:-

**London Electronics Ltd.
Customer Services Department
Thorncote Road
Near Sandy SG19 1PU
Bedfordshire, England**

Alternatively you may send us a fax on **01767-626444** (international code +44)

Or, telephone us on **01767-626446** (international code +44)

Or, send us an E-Mail to help4u@london-electronics.com

To enable us to provide a swift and accurate service, please be sure to provide the following information :-

- 1) Full Model Number , including all options fitted.
- 2) Serial Number
- 3) DETAILED description of your difficulties, suggestions etc.
- 4) Input Range and Display range

This product is covered by a 2 year warranty, during which period we will put right or replace any meter found to be faulty through bad workmanship or materials. This warranty does not cover damage caused by misuse or accident.

IMPORTANT If the meter is a vital component in your process, you may wish to consider the purchase of a spare to cover the possible eventuality of a failure or accident, as we cannot guarantee instant repair or replacement.

We are constantly striving to improve our products and services, and as a result, changes to instruments do occur. Please ensure that this manual is kept safely for future reference, as future manuals, covering revised designs may no longer describe your product accurately.

We believe these instructions to be accurate, and the product to be competently designed and manufactured. We do not make any claims as to the suitability of this product for any particular application. The choice of product and responsibility for the choice lies with the User.

VERY IMPORTANT WARNINGS



You should carefully read all warnings and commence installation ONLY when you are satisfied that all warnings are adequately covered.



! Connections to this equipment shall be carried out in accordance with current IEE regulations, and all wiring shall be separated in accordance with IEC1010

Notes:

! Power supplies to this equipment must be anti-surge fused at 125mA for 230V supply, 250mA for 110V supply or 630mA for DC supplies in the range 12-30VDC

Notes:

! Before installation, check that model number and supply voltage suit your application

Notes:

! Lethal voltages may be present on the circuit board. Do not touch any circuitry when power is applied.

Notes:

! This product is designed for Installation class II service

Notes:

! This product is designed for use in Pollution-Degree 2 environments

Notes:

! Use an insulated screwdriver when adjusting potentiometers and do not touch any circuitry

Notes:

! Replace front cover when meter is unattended

Notes:

! All adjustments to jumper settings or terminations must be made with power removed

Notes:

! Ensure all screw terminals are tight before applying power.

Notes:

**Safety FirstDon't make assumptions..... Always double check.
If in doubt, ask someone who is QUALIFIED to assist you in the subject.**

EQUIPMENT SPECIFICATIONS

Input Signal..... 12 - 24 V level BCD data. Active High. Common Negative
 Input Resistance..... 4700 Ohms in series with opto-isolator LED
 Resolution..... up to 7 decades
 Open Circuit Input Response..... 0
 Isolation..... 200V from supply and output
 Strobing Selectable LEVEL or EDGE strobing * . (Level +12-24V active high)
 Access Speed (Edge Strobed)..... Data must be stable for at least 200 uS after rising edge of strobe and 200 uS after falling edge of strobe
 Strobe Speed..... Strobe should be high for at least 20 uS for edge triggering.

Decoding..... Basic 1248 input, up to 7 decades BCD, with values from 0-9
 Polarity..... decades 1 to 6 can be used to transmit - by applying code 1101
 Blank characters..... Blank character (20Hex) for decades 1-6 by applying 1100 or 1111

Special codes..... The 7th decade (MSD) input can be used to obtain special formats as follows:-

- 1) **6 decades plus polarity and leading zero blanking**
 Set MSD as 1010 for a positive reading, 1011 for negative
- 2) **5 decades, polarity and decimal point, no leading zero blanking**
 Set MSD = 1100
 The 6th decade determines polarity and decimal point position ...
 The '8' bit as 0 = negative, as 1 = positive
 The 1 bit sets 1 decimal place, 2 bit 2 places, 4 bit 4 places
 for example for 6th decade = 0001 , data O/P = -xxxx.x
 = 1010 , data O/P = +xxx.xx
 If MSD is set to 1101, the '8' bit of the 6th decade will be inverted.
5 decades, polarity and decimal point, with leading zero blanking
 Set MSD to 1110, leading zero blanking is enabled. decoding as for 1100
 To invert the action of the DP, set MSD = 1111

Output Signal..... RS422 1200 Baud ASCII
 Data format..... 1 start bit, 8 data bits, 1stop bit, no parity
 Output indication..... Power LED flashes as each string is transmitted (approx. 3 times per second)
 Transit delay - new data to O/P..... Nominally 300mS

Power Supply Requirements

Voltage Range..... 11-14 VDC (which may be obtained from a London Large Slave display)
 Current consumption..... 50mA nominal
 Power indication..... 3mm red LED, pulsing approximately 3 times per second

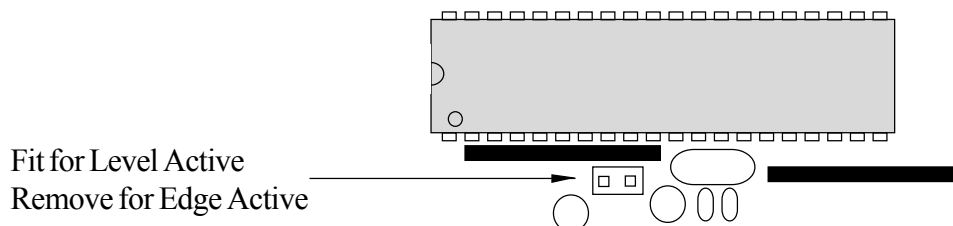
Mechanical

Mounting method..... Free standing or surface mounting
 Case Size..... 60 mm high by 145 mm long by 89mm wide in vertical format.
 Weight..... 280 grammes typically
 Case Material..... UL 94V0 rated grey ABS

Environmental

Operating Temperature..... -20 to +50 degrees C
 Storage Temperature..... -40 to +85 degrees C
 Humidity..... 90% rh max. at 40 C, non condensing.

* Level/Edge strobing mode is jumper selected. To access the jumper, prise off the 4 corner screw covers, remove the 4 corner screws and open the case.



PANEL REQUIREMENTS



All wiring to this device must be carried out in accordance with current IEC regulations
Separation of all power carrying cables must be ensured in accordance with IEC 1010

Installation Class II
Pollution degree 2



This device is to be installed within a secure enclosure, to prevent accidental access by persons to the powered connections present on the meter's rear terminals if potentials are capable of exceeding 38V.

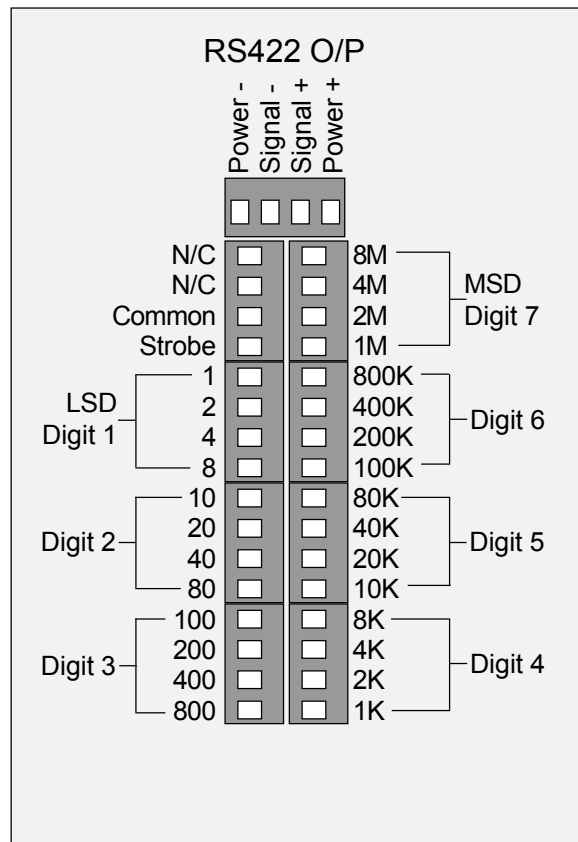
Connections

Connector Specifications :- [VDE Rated Voltage, group B insulation VAC = 380]-[VDE Rated Current = 8 Amperes.]
[Vibration Immunity per VDE0611 <10g]-[Rated Number of mating cycles <100]-[Screw Clamp material/plating Steel/ZnCc]
[Contact Spring material/plating CuSN/gal SnPb]-[Plug-in force, per pole is from 3 to 6 Newtons]-[Disconnect force per pole is from 4 to 7 Newtons]-[Screw clamp tightening torque recommended 0.5Nm]-[Solid wire csa between 0.13 to 1.5mm²] [Multistrand wire csa from 0.5 to 1.5mm²]-[AWG conductor range from 22 to 16]-[Gauge to DIN/EN50027 Size A1]

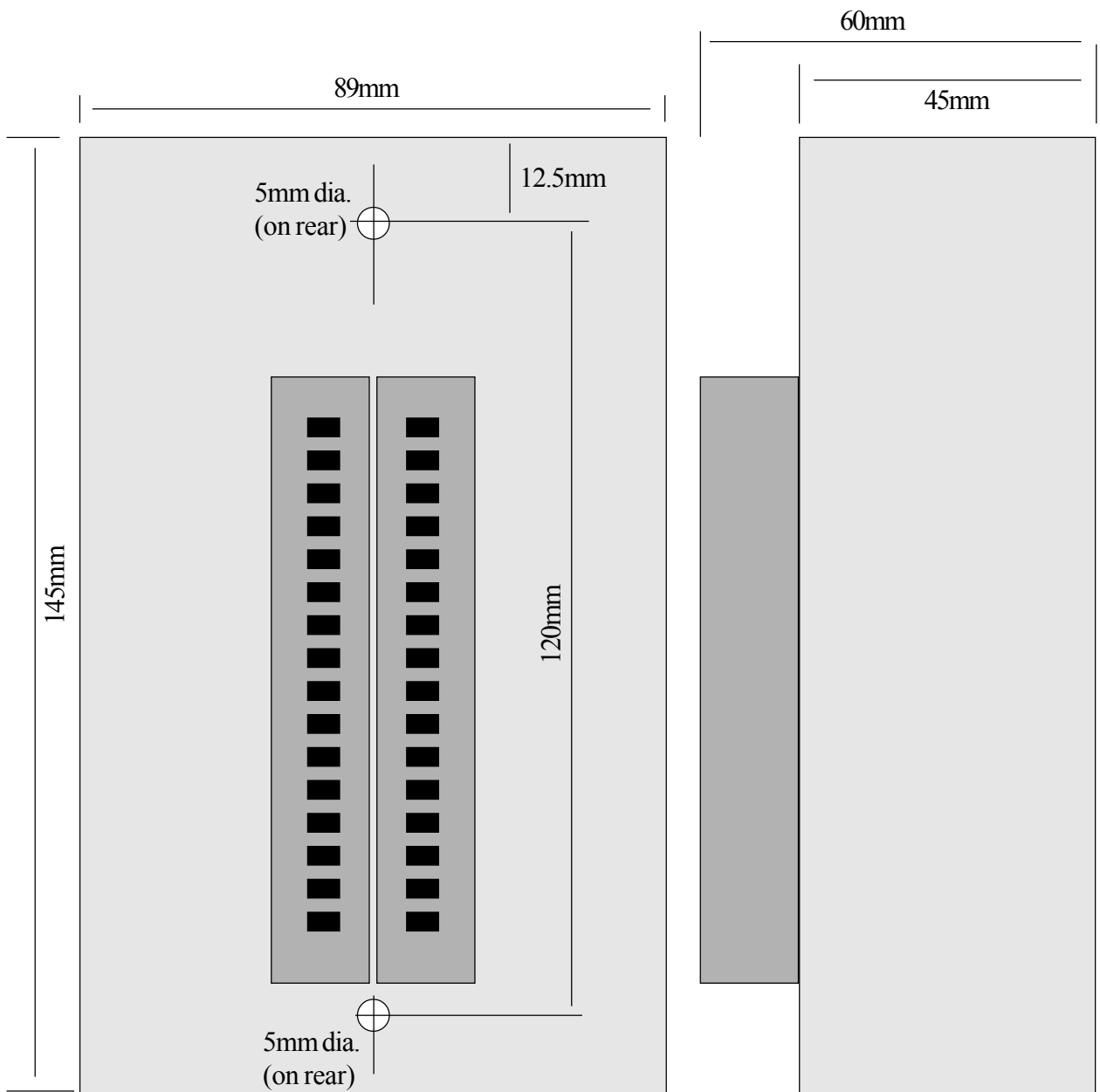
AVOID DISAPPOINTMENT! Route **all** signals via individually screened cables. Do **not** mix input and output signals in the same screened cable. Earth the screens at a point as near to the converter as possible and do not earth the screen at the other end. Route all signal cables well away from power cables, relay switching cables and other sources of electrical noise.

If wiring to a London electronics S17XX series large display, the RS422 O/P is connected as follows:-

Display Serial I/P Cable	PSC1 RS422 O/P
Red	Power +
Blue	Signal +
Green	Signal -
Yellow	Power -



INSTALLATION DIMENSIONS



Mounting holes on rear surface of case

Declaration of Conformity

Declaration Number : PSC1 Iss. 1
Issue Date : 2 July 1998
Products Covered : PSC1
Title : BCD/ASCII converter

This is to confirm that the Products covered by this declaration have been designed and manufactured to meet the following specifications :

IEC 1010
EN50081-1:1992 (normative)
EN50082-1:1992 (normative)

and comply with the requirements of Council Directive 89/336/EEC relating to Electro-Magnetic Compatibility and 72/23/EEC relating to safety.

Conditions

The devices must recover automatically when disturbance ceases without the need for human intervention, such as resetting, power-down etc.

The devices covered by this certificate must be installed in adherence to the following conditions

Signal cabling shall be routed separately to power carrying cabling (includes relay output wiring)
All signal cabling shall be screened. The screen shall only be terminated to a clean power earth terminal as close to the device as possible.

This certificate applies only to devices carrying Serial Numbers 801001 or higher.

Signed as true and correct, for and on behalf of London Electronics Ltd.

J.R. Lees
Director