RM-BC

DIN Rail Mount
BCD to SSI Converter

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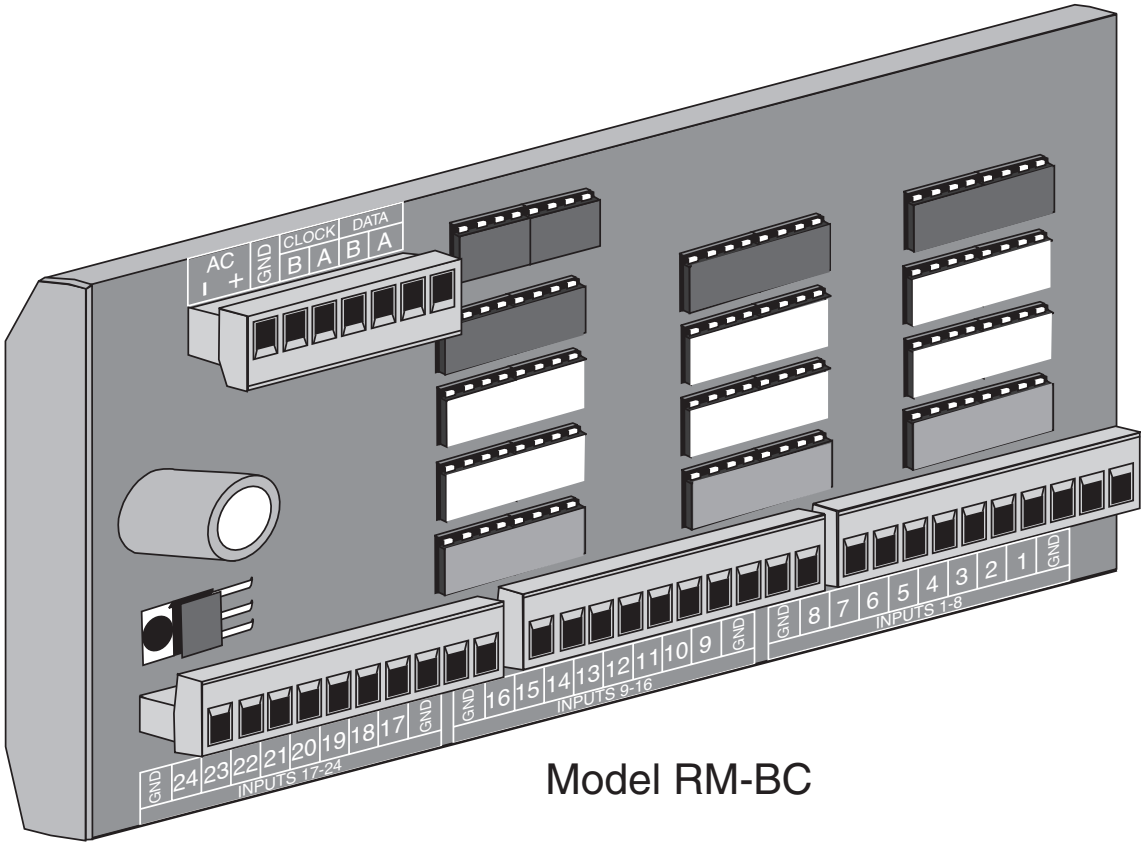
1 Introduction

This manual addendum contains information for the installation of the RM-BC BCD to SSI (synchronous serial interface). The RM-BC converter is designed to be used with model PM4-SSI, RM4-SSI or LD4-SSI display units.

BCD, strobe and address input signal may be of the voltage free type or signal voltages up to 48VDC. See "Electrical installation" chapter for resistor pack requirements for various input voltage levels. The power supply is 24VAC or 12 to 24VDC.

The RM-BC is a DIN rail mounting module and clips easily onto standard rails 35mm rails (EN50022).

Plug in electrical connections simplify installation and removal for service. The plug in terminals accept wires of up to 1.5mm^2.



Model RM-BC

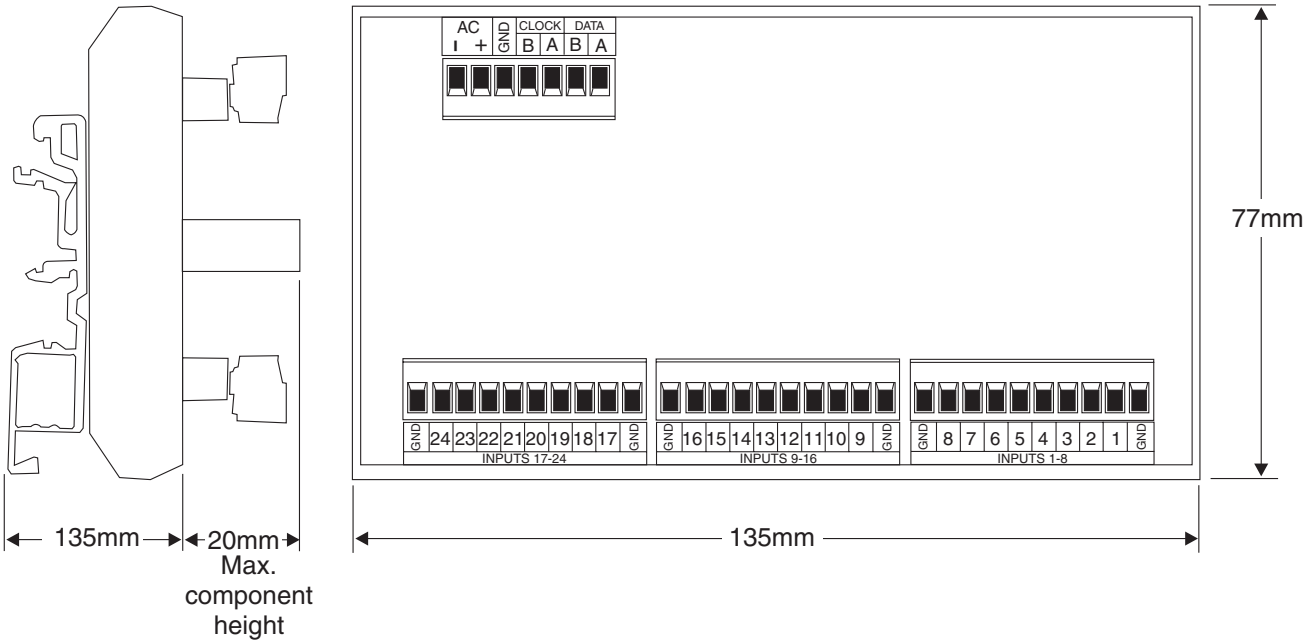
The BCD data address and strobe inputs correspond to display digits as shown below. i.e. digit 1 is the right most display digit which is the least significant digit.

Digit 8 Digit 7 Digit 6 Digit 5 Digit 4 Digit 3 Digit 2 Digit 1

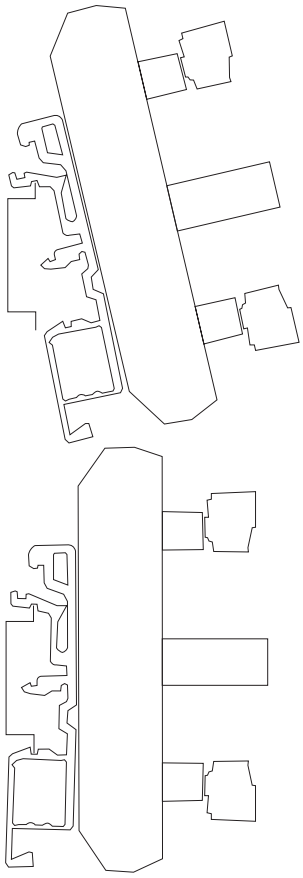
2 Mechanical installation

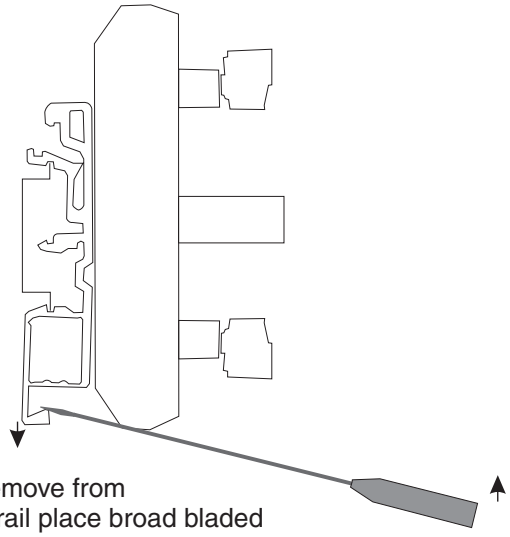
The dimensions of the RM-BC are shown in the diagram below. The RM-BC is designed for DIN rail, horizontal mounting. The instrument snaps onto 35mm DIN standard rails (EN50022). To install the unit simply clip onto the rail shown below. To remove lever the lower arm downwards as illustrated below

DIMENSIONS



CLIPPING THE INSTRUMENT ONTO THE DIN RAIL AND REMOVAL FROM THE DIN RAIL





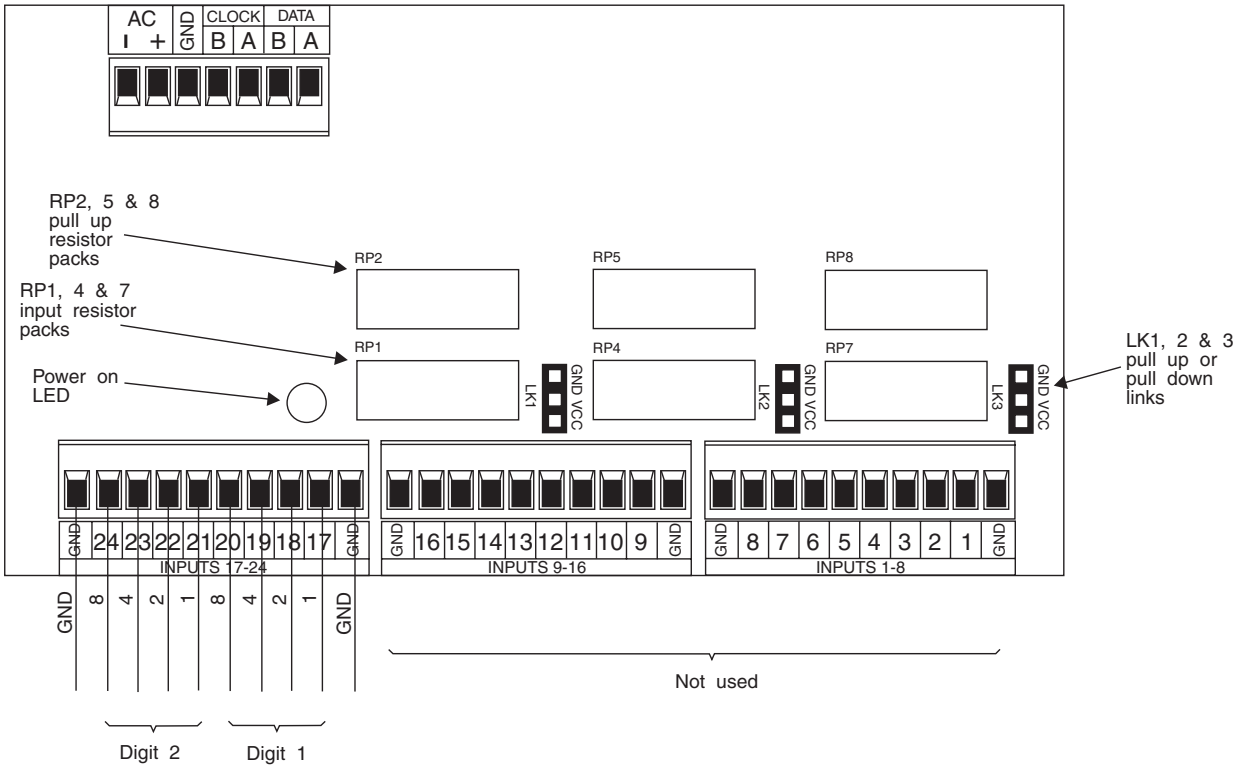
To remove from DIN rail place broad bladed screwdriver under the clip lower arm and lever the arm downwards to pull the clip away from the DIN rail. Note that two clips are used on this mounting.

3 Electrical Installation

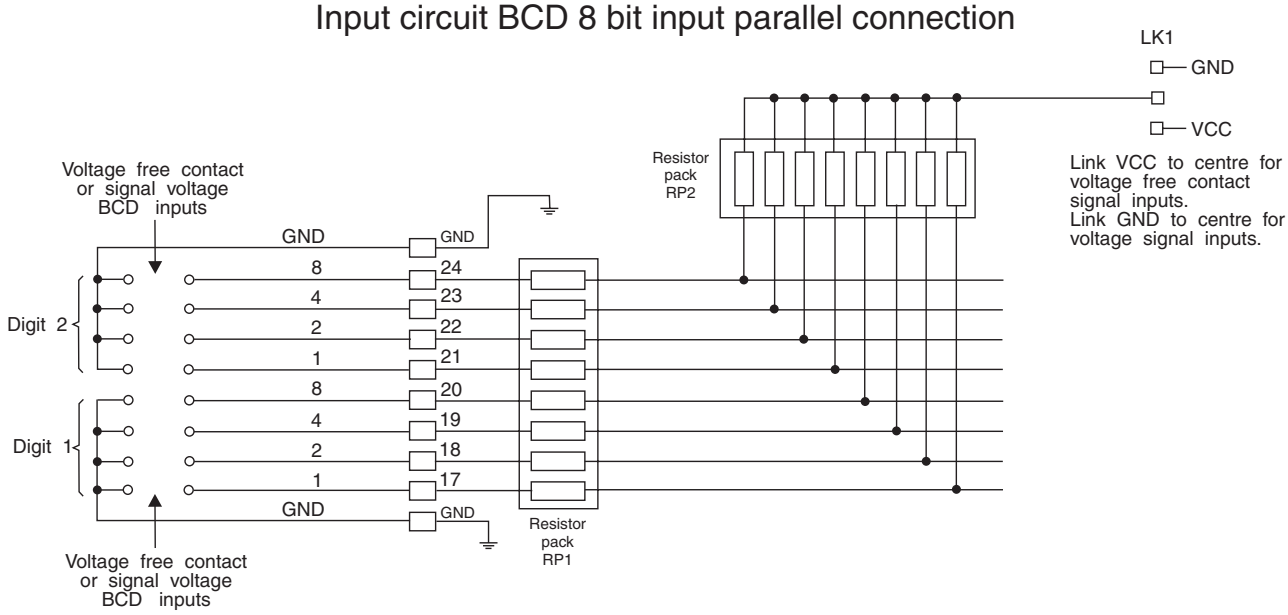
The RM4 Rail Mount Process Module is designed for continuous operation and no power switch is fitted to the unit. It is recommended that an external switch and fuse be provided to allow the unit to be removed for servicing. The terminal blocks allow for wires of up to 1.5mm^2 to be fitted.

3.1 8 bit parallel input connections

Display unit settings SEt di SP = Addr , SEt OPEr = bc 8

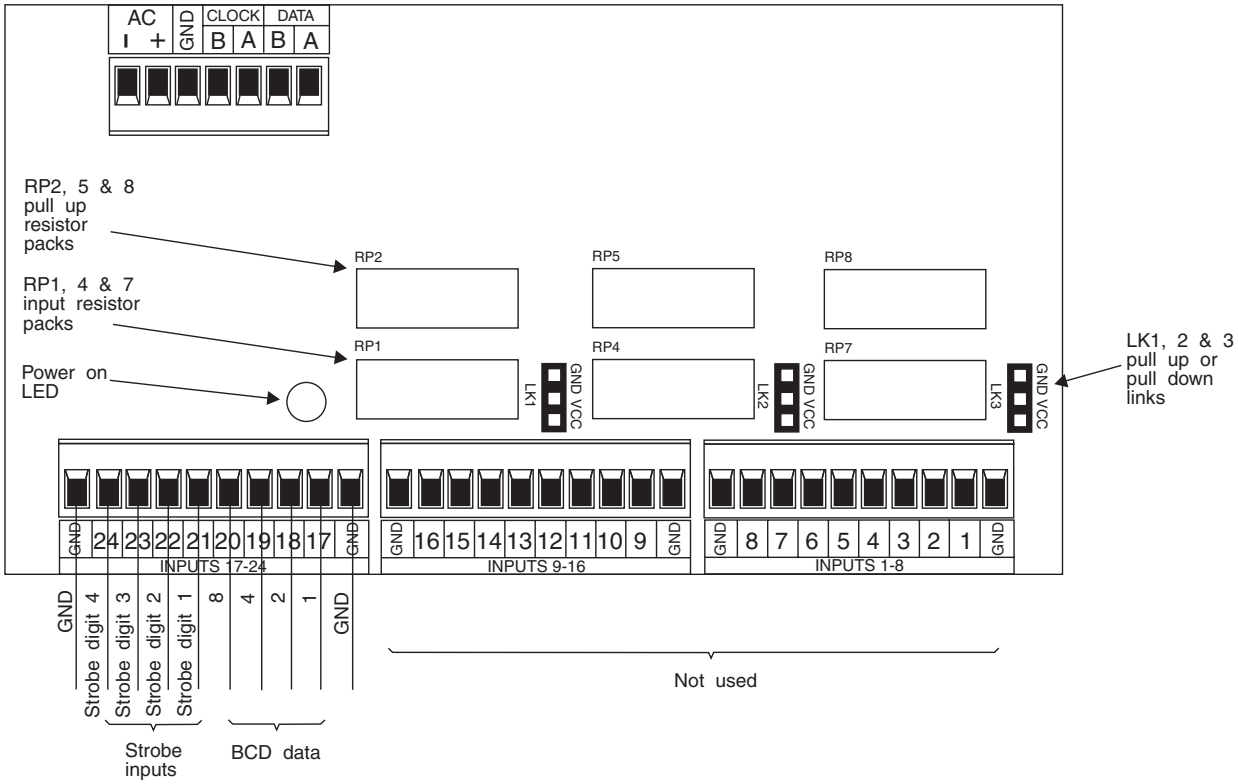


Input circuit BCD 8 bit input parallel connection

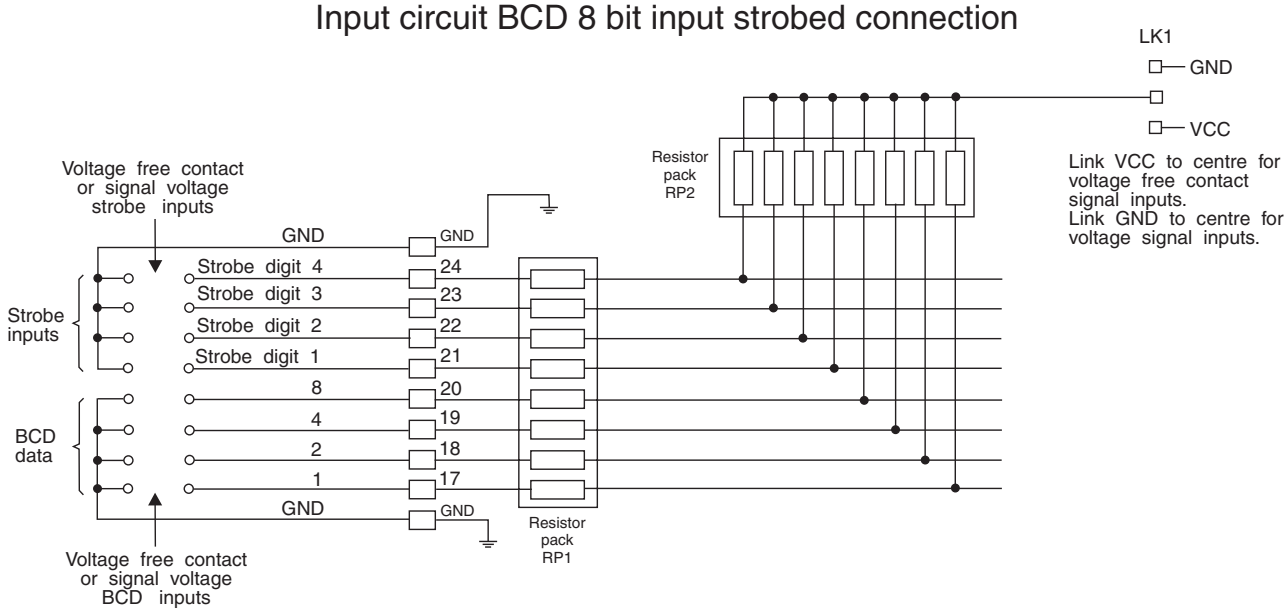


3.2 8 bit strobed input connections

Display unit settings SEt d, SP = Strb, SEt OPEr = bc 8

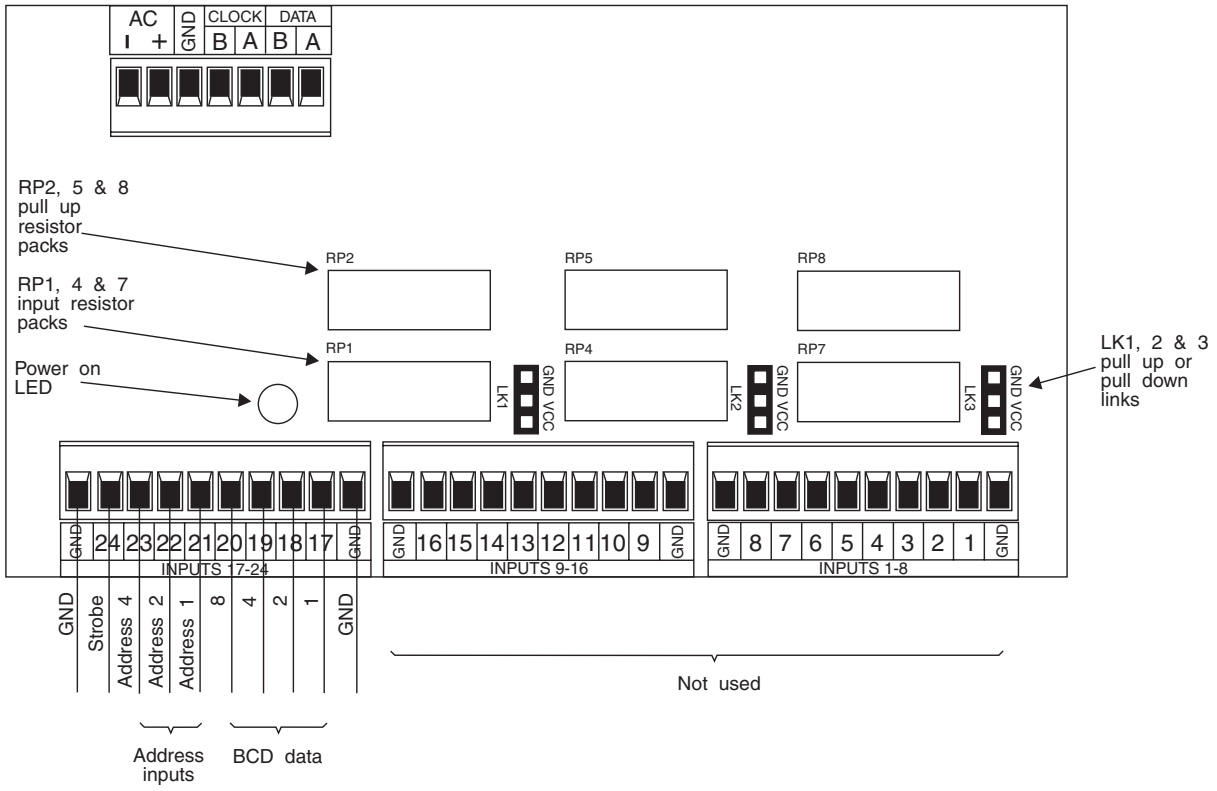


Input circuit BCD 8 bit input strobed connection

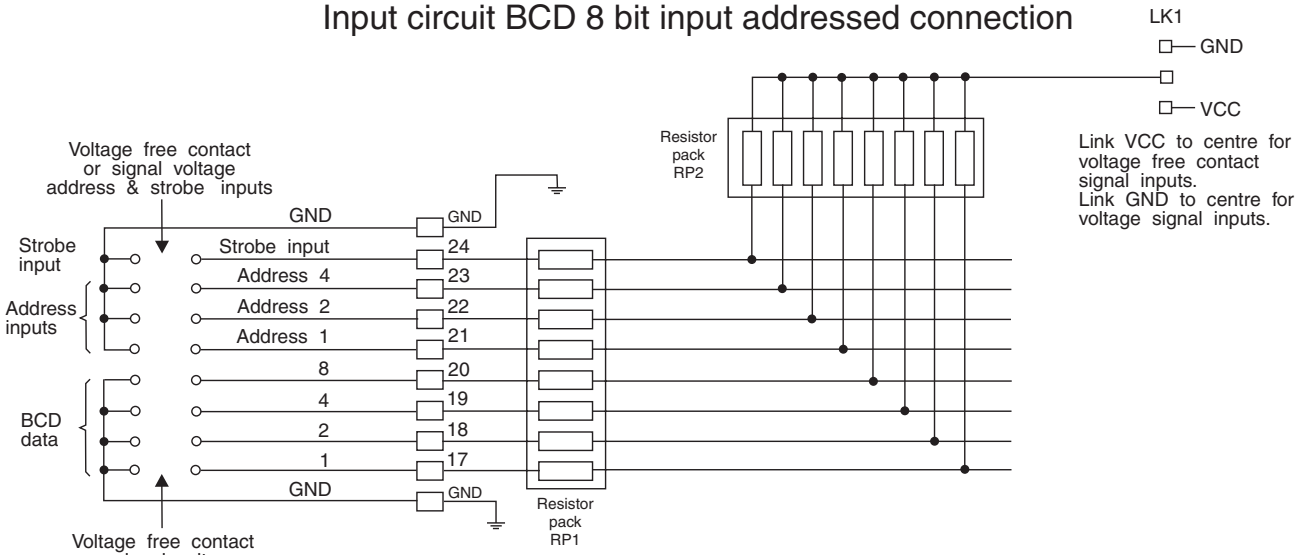


3.3 8 bit addressed input connections

Display unit settings SEt d, SP = Addr , SEt OPEr = bc 8



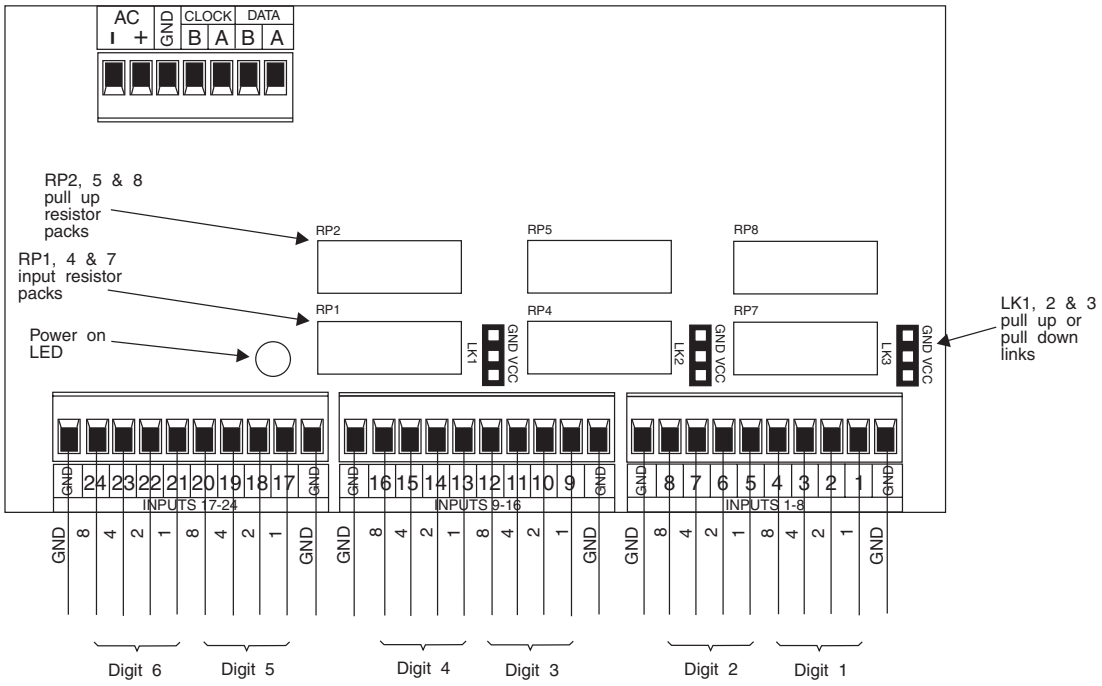
Input circuit BCD 8 bit input addressed connection



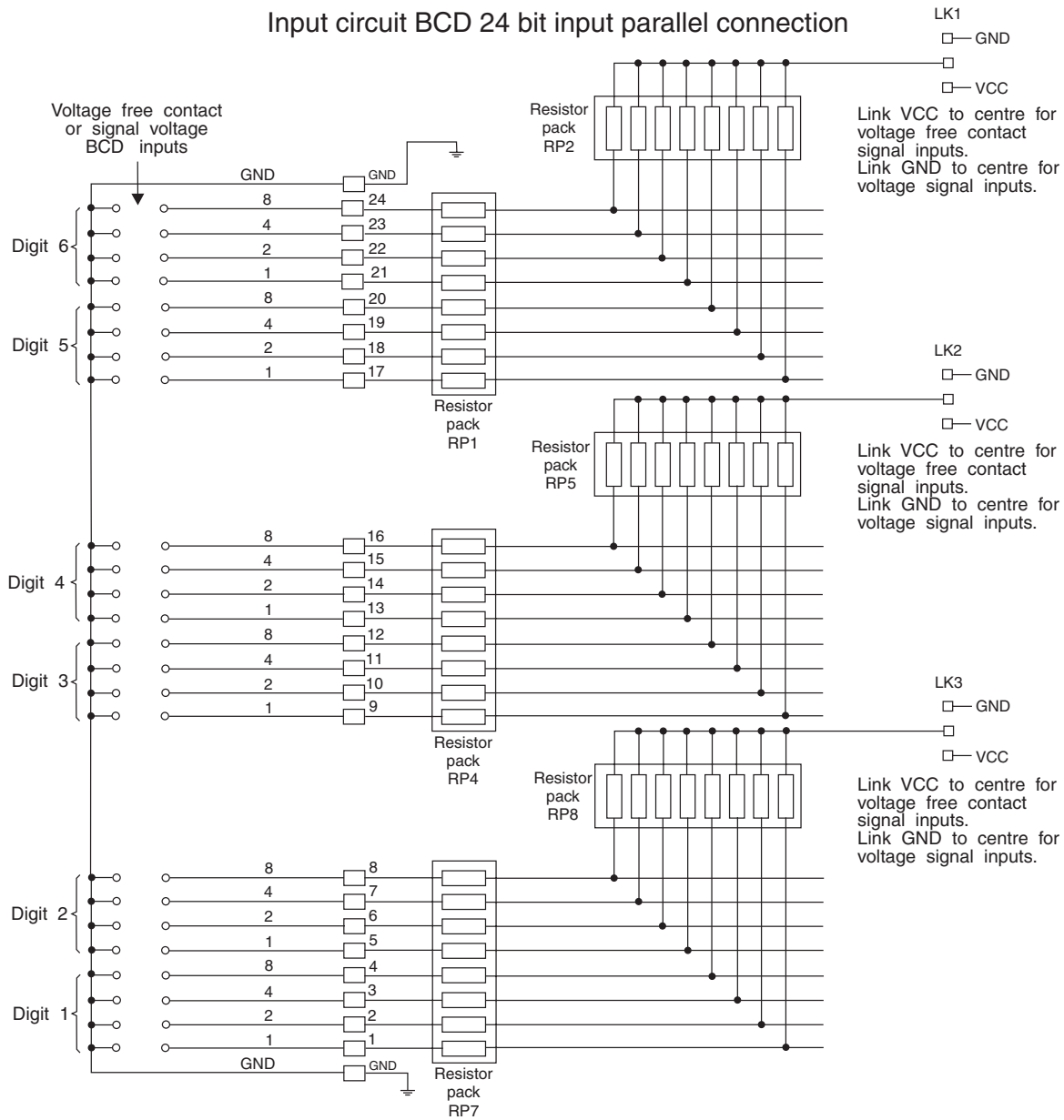
Address input	4	2	1	Digit addressed
Status	Inactive	Inactive	Inactive	1
	Inactive	Inactive	Active	2
	Inactive	Active	Inactive	3
	Inactive	Active	Active	4
	Active	Inactive	Inactive	5
	Active	Inactive	Active	6
	Active	Active	Inactive	7
	Active	Active	Active	8

3.4 24 bit parallel input connections

Display unit settings SEt d, SP = PArL , SEt OPEr = bc24

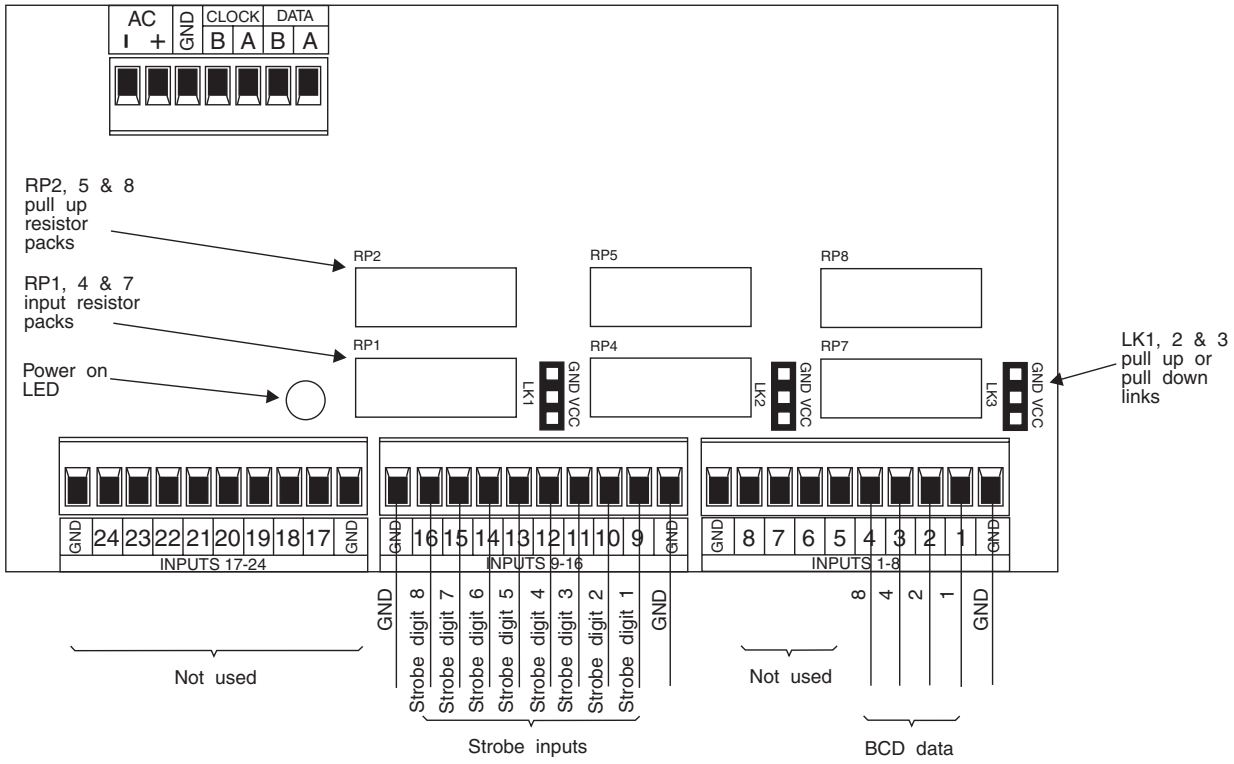


Input circuit BCD 24 bit input parallel connection

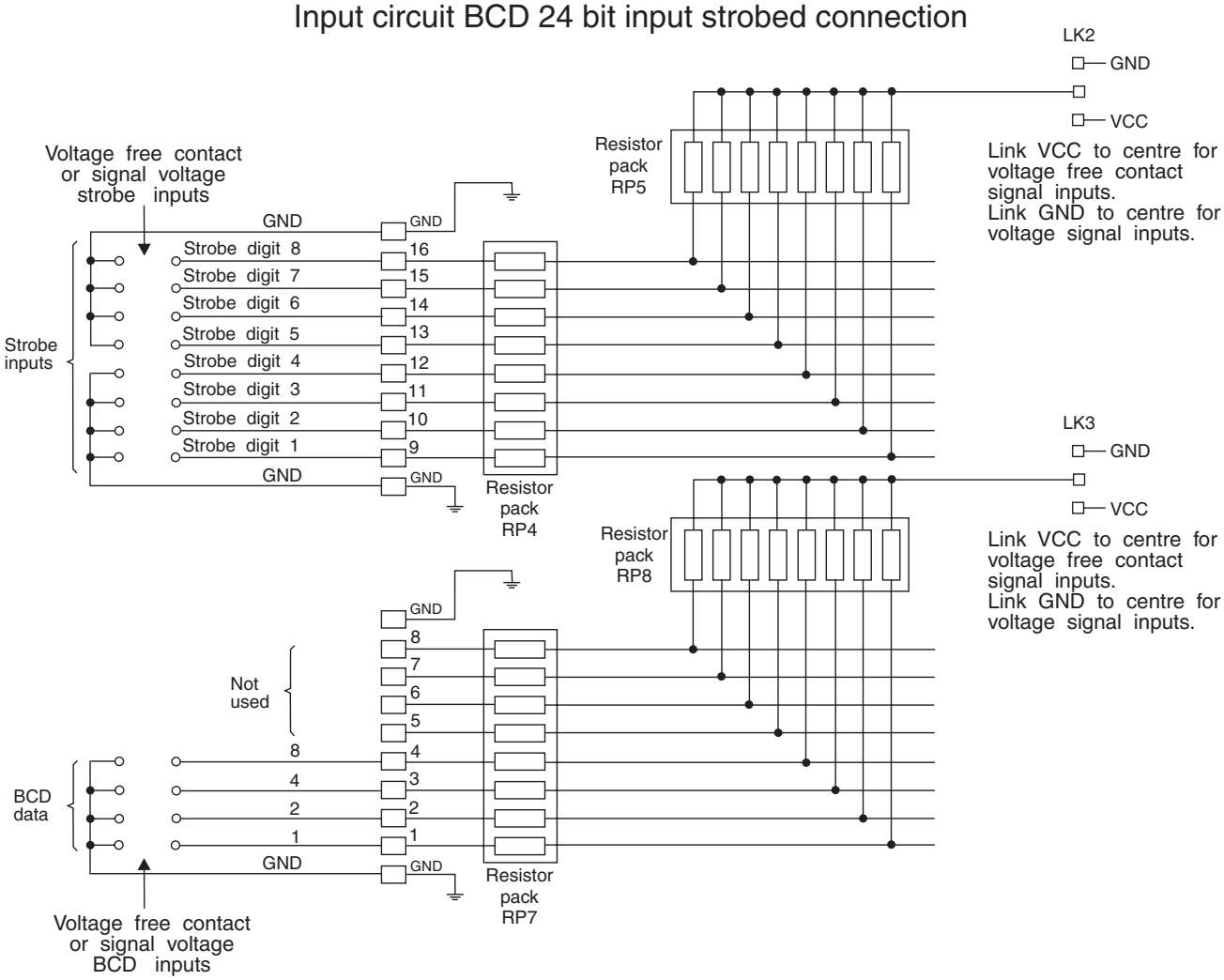


3.5 24 bit strobed input connections

Display unit settings SEt d, SP = Strb, SEt OPEr = bc24

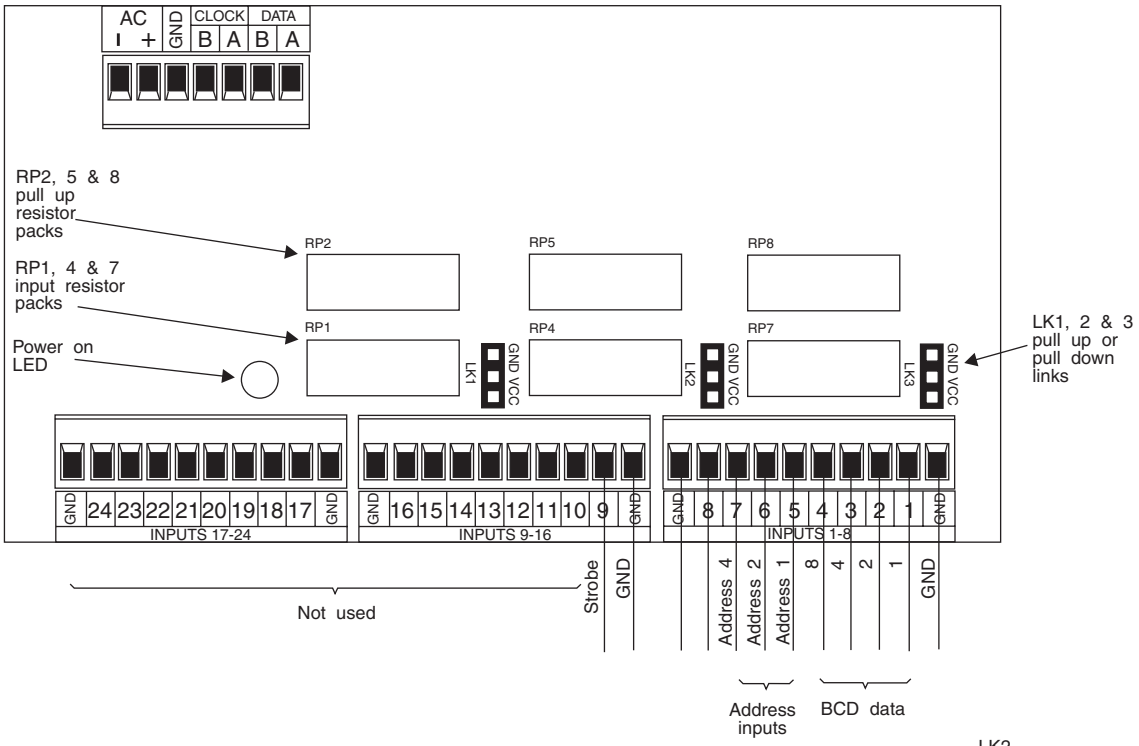


Input circuit BCD 24 bit input strobed connection

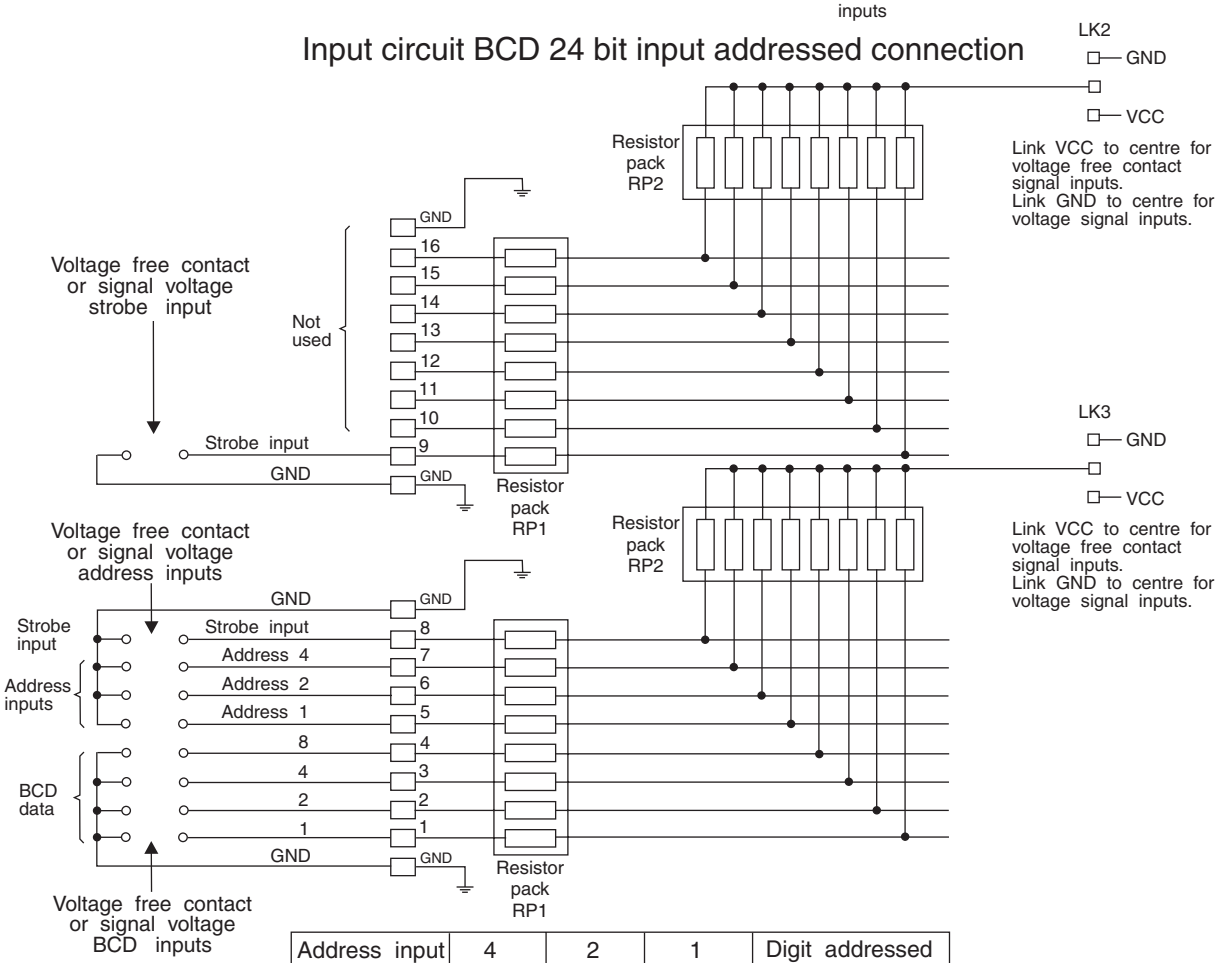


3.6 24 bit addressed input connections

Display unit settings SEt d, SP = Addr , SEt OPEr = bc24



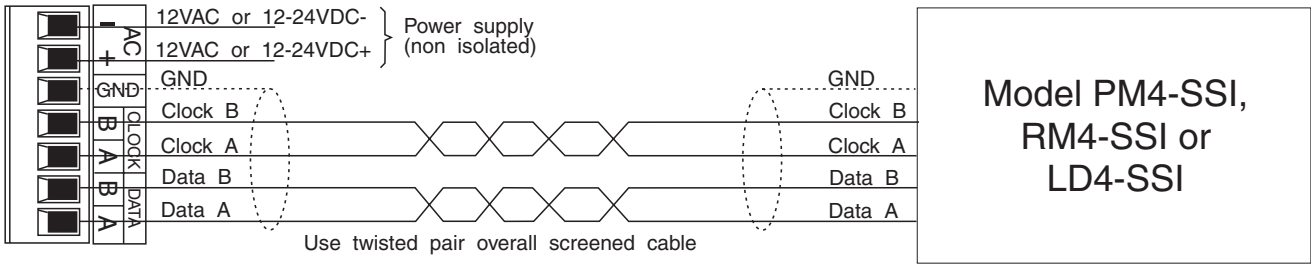
Input circuit BCD 24 bit input addressed connection



Address input	4	2	1	Digit addressed
Status	Inactive	Inactive	Inactive	1
	Inactive	Inactive	Active	2
	Inactive	Active	Inactive	3
	Inactive	Active	Active	4
	Active	Inactive	Inactive	5
	Active	Inactive	Active	6
	Active	Active	Inactive	7
	Active	Active	Active	8

3.7 Output connections

The output from this unit is designed to be connected to a model PM4-SSI, LD4-SSI or RM4-SSI display/controller. See the appropriate model manual for electrical input and setup details.



3.8 Power supplies

Power supplies required are 12VAC or 12 to 24VDC. Supplies are non isolated (common ground or -ve). DC current consumption is less than 30mA.

3.9 Link settings

Links LK1, LK2 and LK3 are used to select pull up (to VCC at 5VDC) or pull down (to GND) for the input lines. Place the link supplied between the centre connector and VCC if the input signals are voltage free contacts from a switch, relay etc. or select GND if voltage signals are used.

3.10 Resistor packs

Resistor packs RP1, 4 & 7 are fitted for use as current limiting resistors on all the signal input lines. The value of the resistor pack chosen depends on the level of the input voltage as sown in the table below.

Input type or voltage	Resistor networks RP1, RP4 & RP7
Voltage free contact	100Ω
5 volt input	100Ω
12 volt input	1KΩ
24 volt input	4K7Ω
48 volt input	22KΩ

3.11 Timing for strobe and address operation.

As shown below the strobe line must become active no later than 10uS from the data and address lines becoming active. The strobe must be held active up to at least 10uS before the data and address lines become inactive. When the strobe is active the input is transparent i.e. if the data changes whilst the strobe is active then the change in the data input will be passed to the output. Date will be held whilst the strobe is inactive. The strobe must be active for at least 5uS. If more than one strobe is active then more than one digit will change. In addressed operation modes the strobe input is still needed before new data can be accepted. If necessary the strobe can be tied to a permanently active state.