



FEMA ELECTRÓNICA, S.A.

SERIAL: R Model: 117A and 117SA

FUNCTION : Modular BCD Code Indicators

Data Sheet :

140/95

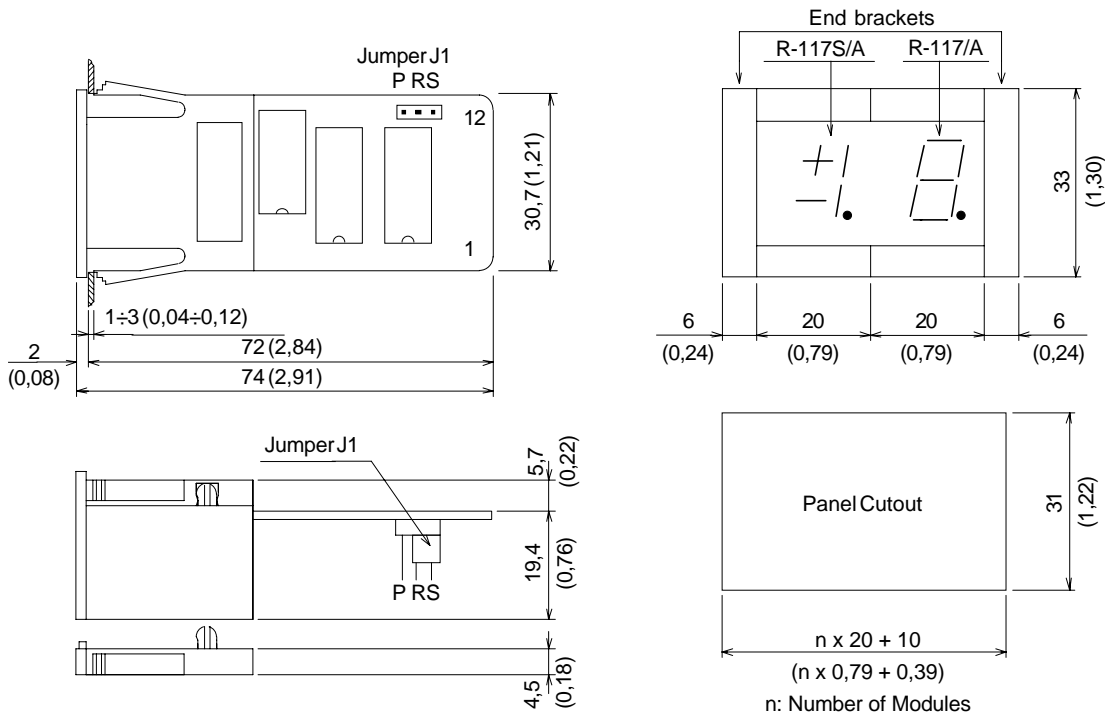
REV.2010/01

GENERAL SPECIFICATIONS

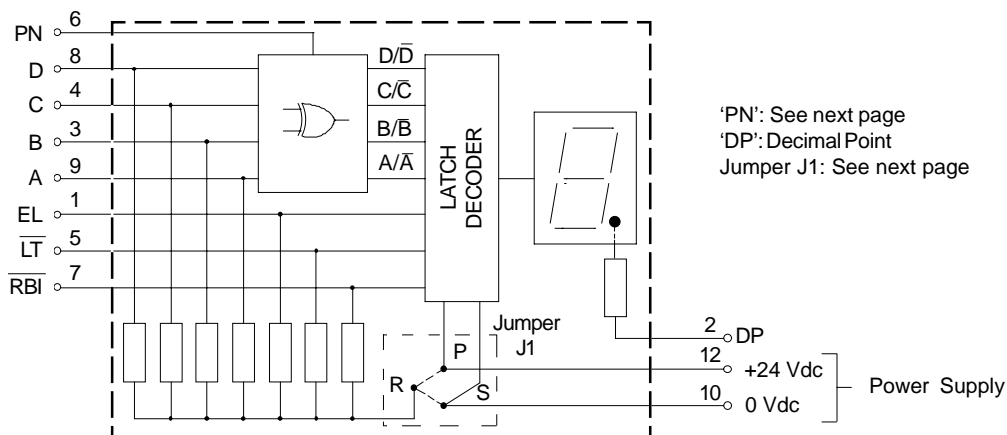
The R-117/A and R-117S/A are modular displays with parallel BCD input for use with programmable controllers, panel meters, and other instruments with parallel BCD output. Both models accept BCD signals with logic level 24Vdc. Data received is latched and displayed when pin 'EL' switches to logic level '1' (Pins 'RBI' and 'LT' are normally connected to logic level '1'). When pin 'EL' is connected to logic level '0' then the display is updated continuously as new BCD data is received. The pin 'PN' enables the module to work with positive or negative logic. Display format for R-117/A is seven segments with right decimal point (8.) and for the R-117S/A is a ±1 with right decimal point (±1).

CASE	Black color in noryl non-flammable
DISPLAY	7 segments, red color
DIGIT SIZE	14.2mm (0.56")
POWER SUPPLY VOLTAGE	24 Vdc ±10 % (max reverse voltage 60 Vdc).
POWER CONSUMPTION	450mW (max.)
OPERATING TEMPERATURE	0 to 50°C

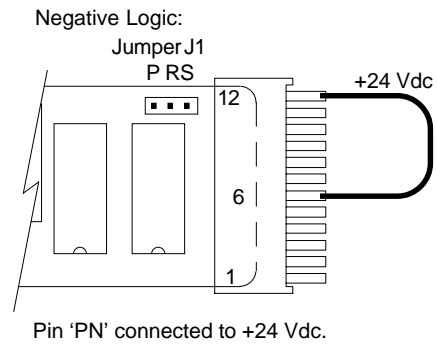
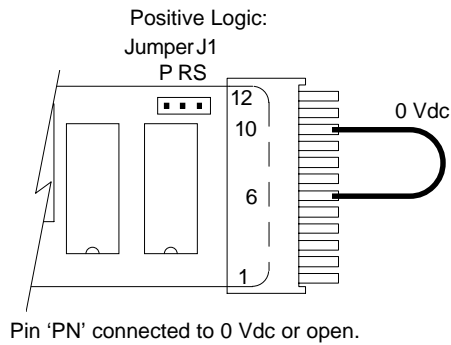
MECHANICAL DIMENSIONS mm (inches)



PINOUT AND SCHEMATIC DIAGRAM



CONNECTIONS



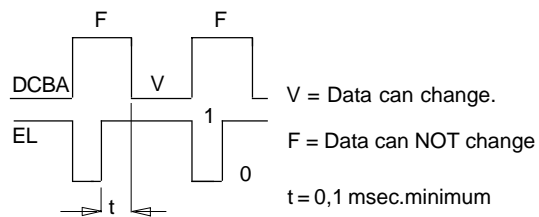
TRUTH TABLES

TRUTH TABLE - POSITIVE LOGIC ('PN' linked to 0Vdc or open)							TRUTH TABLE - NEGATIVE LOGIC ('PN' connected to +24 Vdc)										
BCD INPUTS AND CONTROLS				DISPLAY			BCD INPUTS AND CONTROLS				DISPLAY						
D	C	B	A	EL	$\overline{\text{RBI}}$	$\overline{\text{LT}}$	R-117/A	R-117S/A	D	C	B	A	EL	$\overline{\text{RBI}}$	$\overline{\text{LT}}$	R-117/A	R-117S/A
0	0	0	0	0	1	1	0	± 1	0	0	0	0	0	1	1	*	*
0	0	0	1	0	1	1	1	1	0	0	0	1	0	1	1	*	*
0	0	1	0	0	1	1	2	± 1	0	0	1	0	0	1	1	*	*
0	0	1	1	0	1	1	3	-1	0	0	1	1	0	1	1	*	*
0	1	0	0	0	1	1	4	1	0	1	0	0	0	1	1	*	*
0	1	0	1	0	1	1	5	-	0	1	0	1	0	1	1	*	*
0	1	1	0	0	1	1	6	+	0	1	1	0	0	1	1	9	-1
0	1	1	1	0	1	1	7	-1	0	1	1	1	0	1	1	8	± 1
1	0	0	0	0	1	1	8	± 1	1	0	0	0	0	1	1	7	-1
1	0	0	1	0	1	1	9	-1	1	0	0	1	0	1	1	6	+
1	0	1	0	0	1	1	*	*	1	0	1	0	0	1	1	5	-
1	0	1	1	0	1	1	*	*	1	0	1	1	0	1	1	4	1
1	1	0	0	0	1	1	*	*	1	1	0	0	0	1	1	3	-1
1	1	0	1	0	1	1	*	*	1	1	0	1	0	1	1	2	± 1
1	1	1	0	0	1	1	*	*	1	1	1	0	0	1	1	1	1
1	1	1	1	0	1	1	*	*	1	1	1	1	0	1	1	0	± 1
X	X	X	X	1	1	1	LATCH	LATCH	X	X	X	X	1	1	1	LATCH	LATCH
X	X	X	X	X	0	1	*	*	X	X	X	X	X	0	1	*	*
X	X	X	X	X	X	0	TEST (8)	TEST (± 1)	X	X	X	X	X	X	0	TEST (8)	TEST (± 1)

- 1 = High Logic Level.
- 0 = Low Logic Level.
- X = 0 or 1.
- ** = No indication.

- 'EL' = Enable LATCH, kast reading is fixed.
- 'RB' = Blanking input.
- 'LT' = Lamp test, displays number '8' / ' ± 1 '
- 'PN' = Positive or negative logic

MULTIPLEX DATA TRANSMISSION TIMING DIAGRAM



INPUT DATA SPECIFICATIONS BCD INPUT (PINS A,B,C,D) AND CONTROLS (PINS EL; $\overline{\text{RBI}}$; $\overline{\text{LT}}$)

- Jumper J1: Position 'RS' (for PNP input signals)
- | | | |
|----------------|-----------------|--------------------------|
| Logic Level 0: | Minimum: 0 V. | Maximum: 6,4 V. or open. |
| Logic Level 1: | Minimum: 6,6 V. | Maximum: 24 V. |
- Jumper J1: Position 'RP' (for NPN input signals)
- | | | |
|----------------|-----------------|-----------------------|
| Logic Level 0: | Minimum: 0 V. | Maximum: 6,4 V |
| Logic Level 1: | Minimum: 6,6 V. | Maximum: 24 V or open |
- Jumper J1: Any position
- | | |
|-------------------------|-----------------------------------|
| Current (Iin) @24 Vin: | 0,32 mA each input |
| Overvoltage protection: | up to 60 Vpp. for 10 msec typical |

NOTE : The decimal point 'DP' must be controlled externally. The module features an integral current limiting resistor. Decimal point 'DP' lights when +24Vdc is applied to pin 2.