



DIGITAL LUX 10.. 15 .. 20

10 1,2 METERS 2 + 2 DIRECT BEAMS o 4 + 4 CROSSED

15 1,6 METERS 3 + 3 DIRECT BEAMS o 7 + 7 CROSSED

20 2,0 METERS 4 + 4 DIRECT BEAMS o 10 + 10 CROSSED

**OPTICAL MULTI-BEAM BARRIER
DIGITALLY CONTROLLED with AGC**



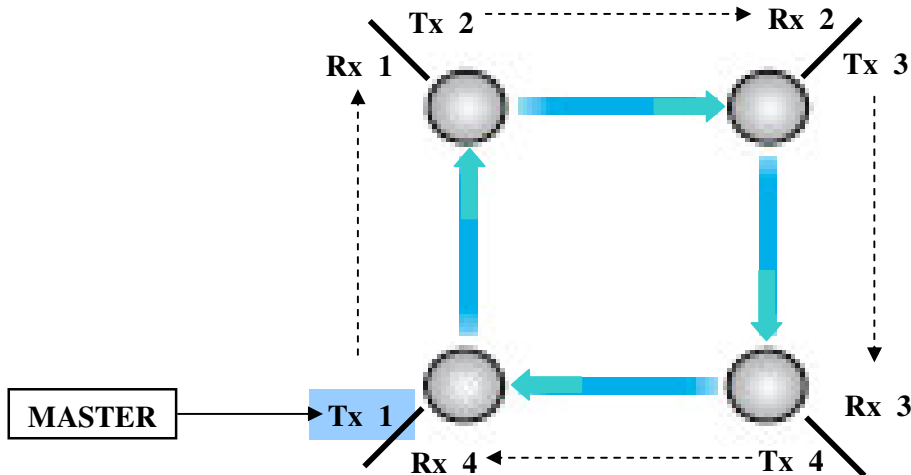
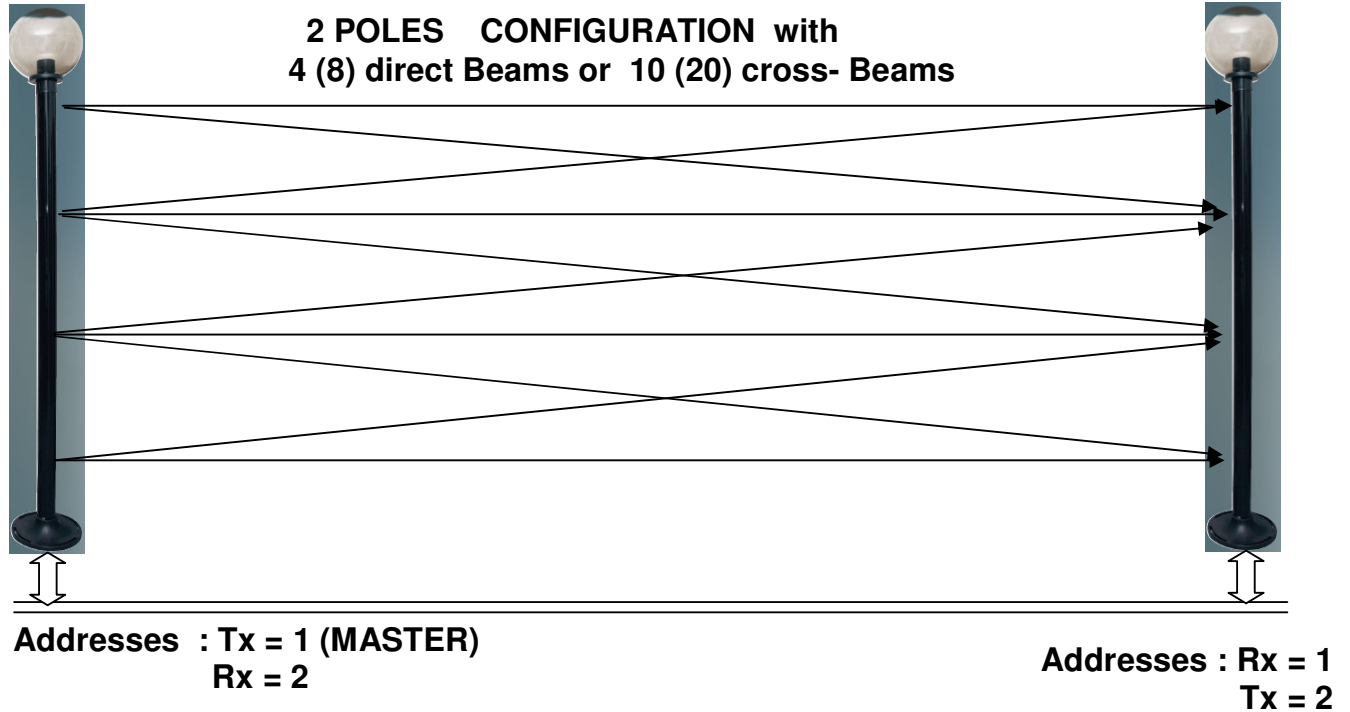
DIGITAL LUX

DIGITAL LUX – General description

This BARRIER was designed to be a step forward in PERIMETRAL PROTECTION in the direction of better reliability and ease of use. The DIGITAL LUX, is composed mainly by a BOARD made by a RECEIVING and a TRANSMITTING part, which manage DOUBLE-optic infrared beam. The electronic management, lacks completely of trimmer, jumpers and any other components that may endanger the reliability of the barrier. Each function of the barrier, is DIGITALLY set by ensuring that all parameters can be read / controlled / modified with ease. Even the AUTOMATIC GAIN CONTROL, transparent to the user, is managed in digital mode. The wide margin of AUTOMATIC CONTROL, allows you to work with the barrier from 5 meters up to 80 meters, maintaining the same characteristics of operation within broad ranges thermal and environmental issues. The synchronization is by WIRE and thanks to the DISPLAY present on both sides, you can perform the installation with a single operator and without any additional instrumentation. The barrier is provided with integrated disqualification, which can be operated both in the traditional way, through its EXIT to RELAY NA or by acting on the lock of RELAY ALARM. All the double optics, allow to minimize false alarms and to maintain a good alignment in any environmental condition. How innovative feature, we have a MEMORY ALARMS, which records the last 20 interrupted beams, useful to be consulted in case of repeated FALSE ALARMS. The barrier is provided and is already mounted with the HEATERS included. Each pole has an address for Transmission and one for Reception, they are independent, thus can be connected in parallel with only 2 WIRES up to 8 POLES. To each Transmission address from 1 to 8 (T1.... T8) is associated a reception address from 1 to 8 (R1...R8), in every installation must be set A TRANSMITTER T1, which acts as MASTER for the entire installation.

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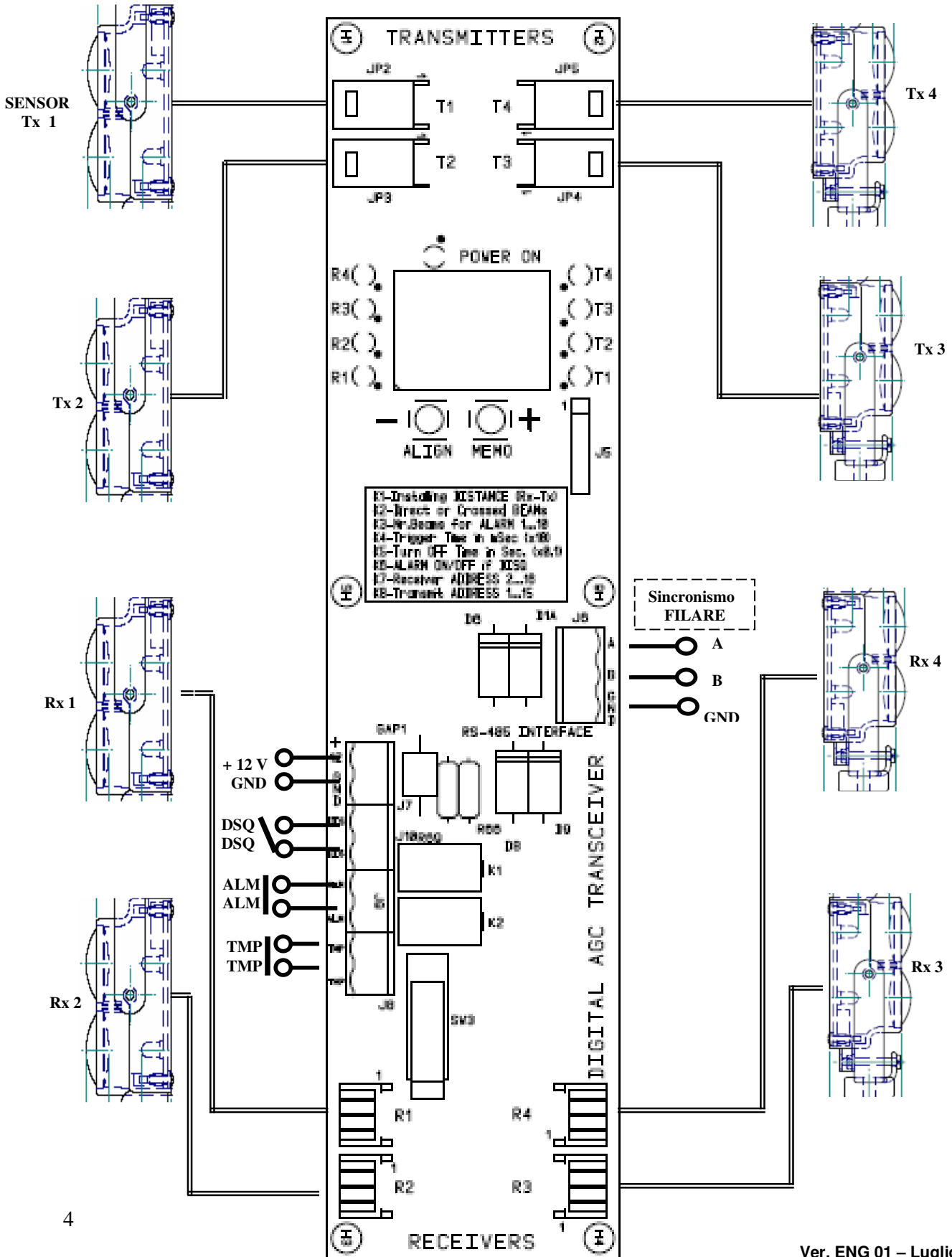
INSTALLATION EXAMPLES DIGITAL LUX 20



**PERIMETRAL CONFIGURATION
2..4 Direct Beams or 2...10 Crossed**

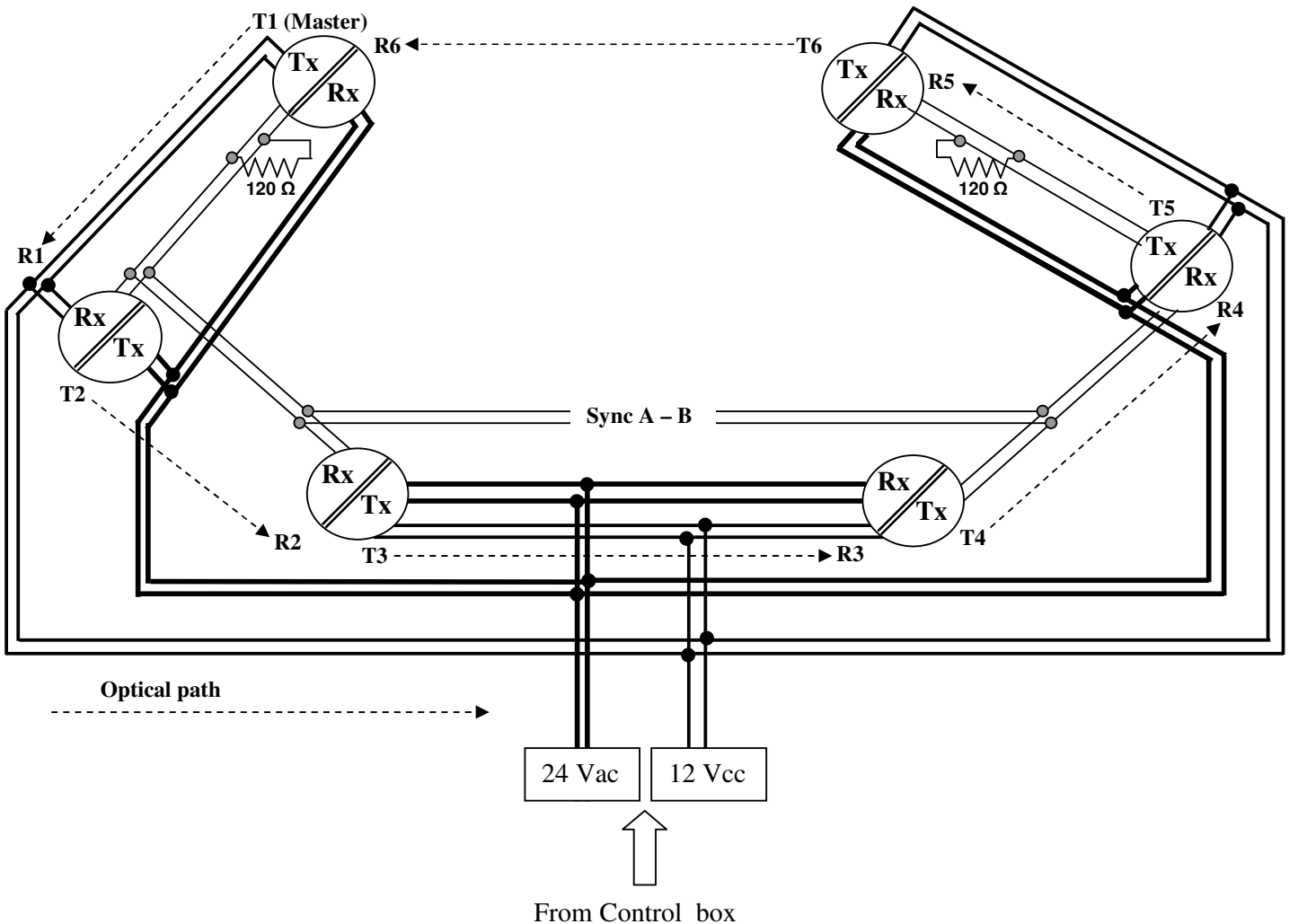
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Wiring to BOARD



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PERIMETRAL SYSTEM wiring (Installation example with 6 Poles)

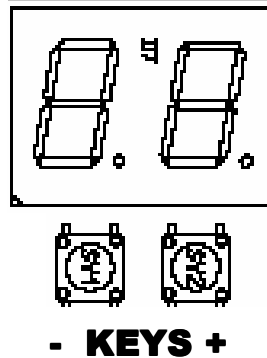


1. Connect the 12 Volt c.c. power supplies possibly by making a "U" wiring to limit the voltage drops
2. Connect the 24 volts c.a power supplies possibly by making a "U" wiring to limit the voltage drops
3. Connect the sync A and B wires , in parallel on all the columns, avoiding "CLOSING" the LOOP
4. In the first and last column, put in parallel to TERMINALS A and B a resistor of 120 Ω as termination
5. Connecting the various Relay OUTPUTS , Alarm, Tamper and Disqualification to CONTROL BOX
6. Power the system and proceed with the programming of parameters
7. Select first of all, the first column (top left) as MASTER .. P8 = T1 and P9 = ON
8. The TRANSMITTERS beams Tx1... Tx4 must be oriented to the Receiver of the FOLLOWING POLE
9. Set the parameters of the 2nd POLE with P7 = R1 P8 = T2 and P1 as the optical distance from MASTER (T1)
10. The RECEIVING beams Rx1... Rx4 must be oriented to the transmitter of the PREVIOUS POLE (T1)
11. Setting the parameters of the 3rd POLE with P7 = R2 P8 = T3 and P1 distance optical by the 2nd column
12. Setting the parameters of the 4th POLE with P7 = R3 P8 = T4 and P1 distance optical from the 3rd column
13. Setting the parameters of the 5th POLE with P7 = R4 P8 and P1 = T5 distance optical by the 4th column
14. Setting the parameters of the 6th POLE with P7 = R5 P8 and P1 = T6 distance optical by the 5th column
15. Setting the parameters of POLE MASTER P7 = R6 and P1 distance optical by the 6th POLE
16. The RECEIVING BEAMS Rx1... Rx4 be oriented to the transmitter side of the POLE 6 (T6)
17. Proceed to align the BEAMS of every POLE
18. Each POLE can be configured with Direct or Cross-beams independently from the others .
19. At the end of alignment, check the ALARM RELAY and set the different times of Trig. / Recovery, etc..
20. In conclusion , checking all beams and put the system into FUNCTIONING .

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PROGRAMMING PARAMETERS of FUNCTIONING

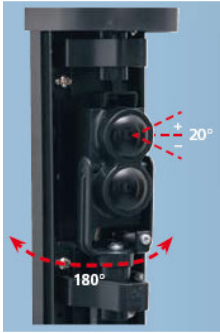
The parameters for the functioning of barriers, can be set through the DISPLAY and 2 KEYS below it. The parameters are associated with variables ranging from P1 to P9. In Table 1, are reported variables changeable and the minimum and maximum value associated with them. To set the values of operation, proceed as follows :



1. Press TOGHETER keys + and - , the DISPLAY points to the first parameter (P1)
2. Move back and forth with KEYS + and - ranging from P1 to P9
3. Once you have decided the variable you want to CHANGE
4. Press again TOGHETER the keys to access the value (it blinks) and change the value with the Keys + and -
5. Press again TOGHETER the keys to MEMORIZE the new value setting
6. The display points to the last parameter CHANGED P1... P9
7. To change and / or look the other values, repeat from point 2
8. To stop the changes, do not touch the keys, the sequence stops in a few seconds

Table 1 - List of PARAMETERS

P1 Optic Range: 5 ÷ 80 meters (OPTICAL distance beetwen BARRIERS - Rx side)
P2 Mode Of Beams: Direct or Crossed (distance must be \geq 20 Meters for crossed)
P3. Beams for Alarm : 1,2,3... 10. Nr. of Beams to be interrupted for ALARM condition
P4 Trigger Time : Adjustable from 50 mSec. to 990 mSec. (reading x 10mS)
P5 Turn OFF Time: Adjustable from 0.1 Sec. to 9.9 Sec. (reading x 0.1 S)
P6 Mode Disqualification : ON / OFF (if ON it Locks ALARM RELAY in case of FOG)
P7 Receiver Address : 1 ...8 RECEIVING SIDE ADDRESS (R1..R8)
P8 Transmitter Address : 1 ...8 TRANSMITTING SIDE ADDRESS (T1..T8)
P9 MASTER MODE : ON / OFF (if ON ENABLE BARRIER Tx1 to act as MASTER)



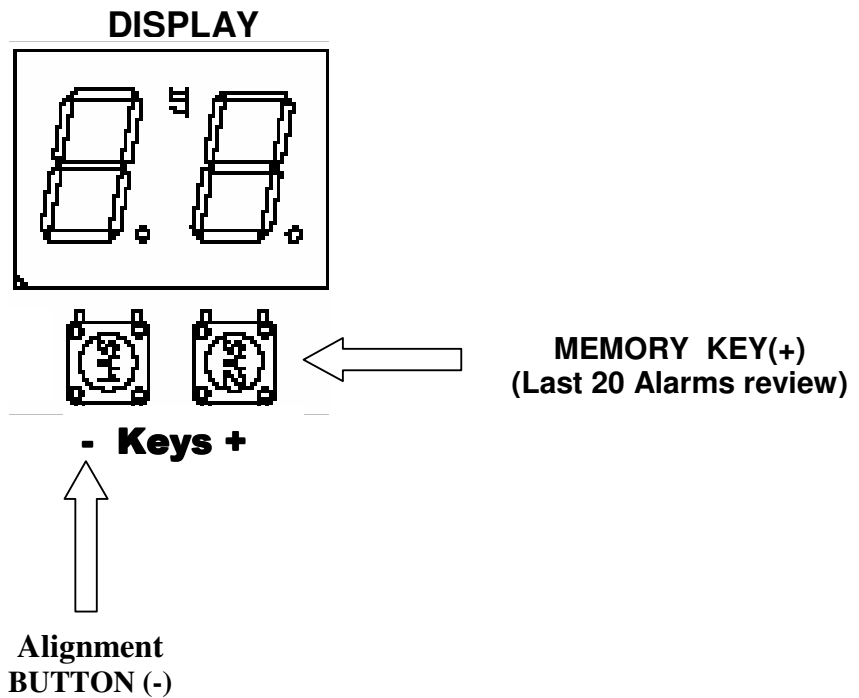
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BEAMS ALIGNMENT

1. PRESS THE BUTTON (-) on the BOARD , the DISPLAY turns on and the LED of BEAM 1 blinks onto the Rx (R1) and the Tx side (T1), on both sides read the value of ALIGNMENT
2. Adjust optical alignment horizontally by hand and use a screwdriver for vertical adjustment
3. Make reading value on DISPLAY maximum possible (full scale 99) then change side and repeat
4. At the end of the current alignment , PUSHING + or - you move to another BEAM
5. Repeat from step 2 , until finished . By PUSHING the BUTTON (-)FOR 2 SECONDS , you leave this function

ALARMS Reading (last 20 Alarms memory)

1. This feature EXHIBITS EVENTS of the Rx side, PRESS the BUTTON (+) for a couple of seconds
2. The DISPLAY point to 1 (last event) and turns on L.E.D.s of the interrupted Beam(s)
3. With KEYS + and - , you go up to 20 (first Alarm) , (1 = last , 2 = previous last , etc.).
4. To exit from this feature hold down the BUTTON + for a few seconds



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TECHNICAL FEATURES

Available models:	DIGITAL LUX 10	1,2 METERS HIGH	with 2 / 4 Beams Direct-Crossed
	DIGITAL LUX 15	1,6 METERS HIGH	with 3 / 7 Beams Direct-Crossed
	DIGITAL LUX 20	2,0 METERS HIGH	with 4 / 10 Beams Direct-Crossed

Maximum OPTICAL recommended distance OUTSIDE	80 Metri
Maximum OPTICAL recommended distance INSIDE	200 Metri
Minimal OPTICAL installation distance	5 Metri
Minimal OPTICAL distance for CROSSED BEAMS	20 Metri
Horizontal alignment Adjusting	± 90 °
Vertical alignment Adjusting	± 20 °
Max Nr. of Poles in parallel on BUS RS-485	8 (8 addresses Tx e 8 Rx)
POWER SUPPLY (version 20)	11 ÷ 14 VDC – 220 mA
POWER HEATERS (vers. 10 / 15 / 20)	24 Vac – (20 / 40 / 40) W
IP GRADE	IP 55
Functional Temperature	- 25 ° ÷ + 55 ° C

OTHER FEATURES

Automatic Gain Control (digitally regulated)
Wired Synchronism (RS-485)
Di squalification INTEGRATED for fog and other weather phenomena
DOUBLE OPTICS with INFRARED LENSES for high immunity to sunlight
TAMPER PROOF on I.R. Front and upper and lower PLUGS
Event Memory (Last 20 ALARMS)
Self-Power OFF for DISPLAY and LEDs after 1 minute of inactivity on KEYS

OUTPUTS:

ALARM	→ N.C CONTACT by RELAY
TAMPER PROOF	→ N.C CONTACT
DISQUALIF.	→ N.O.CONTATTO by RELAY



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