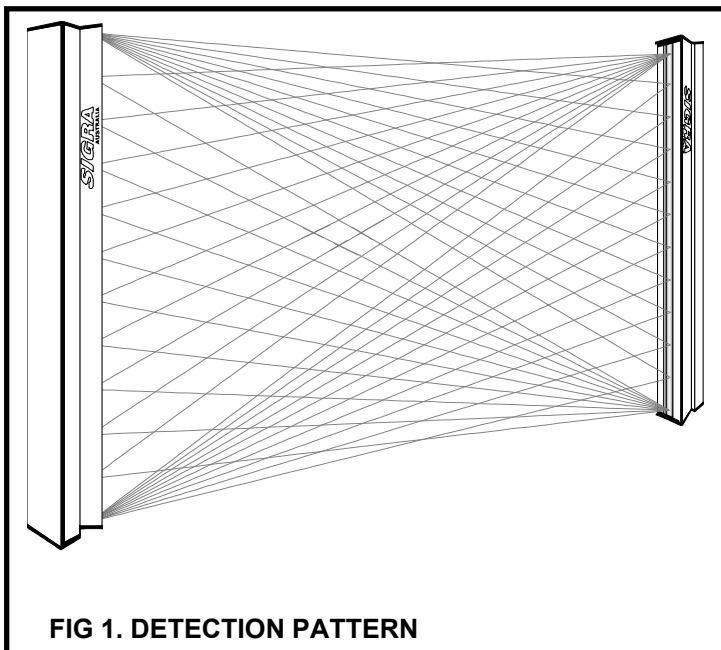


1/ INTRODUCTION:

THE CLB SYSTEM OF PHOTOELECTRIC LIGHTGUARDS is a new concept in light curtain technology, suitable for guarding a variety of powered machines which can be stopped at any portion of a dangerous stroke, with an electrical signal. Two identical Transceiver Bars are used to establish a protected area in the form of an invisible "curtain" of light between them. A Controller which drives the Transceivers, processes the digital signals from the transceivers and other interlock switches/devices, and provides electrical outputs to the machine corresponding to "CURTAIN CLEAR" or "CURTAIN OBSTRUCTED". The inherently safe design of the system ensures that the detection capability and defined area of the curtain is checked on every clock pulse (400uS). Each Controller board can run 2 such curtains using 4 Transceiver Bars. The system can be expanded with additional Controllers, which can also be synchronised for certain applications. The system essentially operates on the proven through-beam, transmit/receive principle. However, as the transceiver bars are identical and each performs both transmit and receive functions, they generate the unique, invisible Safety Net pattern as shown in FIG.1. The defined area of a curtain is defined by the transceiver lens.

WARNING: SYSTEMS INSTALLED BY UNQUALIFIED PERSONS CAN BE UNSAFE. THE INSTALLER SHOULD BE FAMILIAR WITH LOCAL REGULATIONS, AND MUST READ THIS MANUAL THOROUGHLY BEFORE ATTEMPTING INSTALLATION.



2/ SAFETY:

2.1/ The CLB System was designed along guide-lines as defined by International standards.

2.2/ The CLB System must be installed and commissioned by a competent installer and in a manner conforming to local Occupational Health and Safety regulations. In some states it is mandatory to advise the regulatory authorities of the installation.

2.3/ It is recommended that periodic checking of the Light Curtain be done as part of the normal operating procedure of the machine. For example, at the start of a shift, the operator would insert the provided test piece(s) at various positions within the guarded area to verify correct operation of the guard, machine, and interface circuitry, BS6491 requires this test to be carried out at least every 24 hours.

2.4/ It is also strongly advised that regular inspections be carried out, by a competent person, of the safety systems with particular attention to mechanical wear of valves, hydraulics, and relays at intervals not exceeding six months.

2.5/ It is recommended that any keys or special tools required for access to system adjustment or set-up be held by responsible, authorised personnel only.

2.6/ No covers or doors are to be left opened whilst the system is in normal operation. Failure to comply with this requirement voids BS6491 compliance.

3/ OPERATING MODE:

3.1/ The CLB System standard mode of operation is Guard Only, ie; any interruption of the curtain causes the output relays to de-energise and open the circuit to the MACHINE PRIMARY CONTROL ELEMENTS.

3.2/ A MUTE function is supplied which by-passes the final output stages of the guard where required during safe portions of a cycle on reciprocating machinery. Three muting functions are available. The standard option causes the system to self test it's output relays whenever the system is UN-MUTED . The second option self tests the outputs on UN-MUTE only if the curtain was interrupted whilst MUTED. The third option does not test the outputs on UNMUTE. Selection of mute is to be via key operated switch supplied by the installer. See Sect. 9.1 for details on MUTE connection.

4/TRANSCEIVER MOUNTING PROCEDURE

4.1/ Prior to mounting transceivers, the machine to be guarded should be categorised in accordance to AS4024.2, Sect 4.1.4

MOUNT THE TRANSCEIVER BRACKETS USING THE NYLON SCREWS AND FIBRE INSULATORS PROVIDED SO THAT THE TRANSCEIVER REMAINS INSULATED FROM THE MACHINE EARTH.

NOTE BRACKETS FOR EACH CURTAIN MUST BE PARALLEL.

4.2/ POSITION TRANSCEIVER ALLOWING 50mm CLEARANCE FROM THE END OF THE MOUNTING BRACKET TO ALLOW EASY REMOVAL IN FUTURE

4.3/ INSERT BEARING DISCS AT EITHER END AND START THE LOCKSCREWS. DO NOT TIGHTEN YET.

4.4/ MOUNT CONTROLLER CABINET. BE SURE TO RETAIN THE IP65 RATING OF THE CABINET BY USING THE SEALING HARDWARE SUPPLIED. ALLOW 300 mm CLEARANCE AT THE FRONT OF THE CABINET TO ALLOW OPENING OF THE CABINET DOOR.

5/ ELECTRICAL CONNECTION:

WARNING

5.1/ SYSTEMS INSTALLED BY UNQUALIFIED PERSONS CAN BE UNSAFE. THE INSTALLER SHOULD BE FAMILIAR WITH THE REQUIREMENTS OF LOCAL STATUTORY AUTHORITIES AND THE MACHINE TO WHICH THE SYSTEM IS BEING FITTED.

READ THIS MANUAL THOROUGHLY BEFORE INSTALLATION

5.2/ FOR ANY CONNECTIONS TO TRANSCEIVERS, MUTE OR RESET, ALWAYS USE SCREENED CABLES WITH OUTSIDE DIAMETER 5 TO 7mm, AND GROUNDED AT SUPPLY OV (CONTROLLER TERMINALS 5, 13, 21 AND 29). **SHIELDS SHOULD BE GROUNDED ONLY AT THE CONTROLLER 0 VOLT TERMINAL, NOT AT EARTH.** USE 8 CORE CABLE FOR TRANSCEIVERS AND INDIVIDUAL 4 CORE CABLES FOR MUTE AND RESET. BE SURE

TO RETAIN THE IP65 INTEGRITY OF THE CABINET WHEN PASSING CABLES THROUGH THE WALLS.

5.3/ NOTE: ALL LOOSE WIRING AND ESPECIALLY MAINS OR SWITCHED OUTPUTS SHOULD BE KEPT AWAY FROM THE CONTROLLER BOARD AND SIGNAL WIRING TO TRANSCEIVERS. FAILURE TO DO SO MAY RESULT IN FALSE TRIPPING.

5.4/ The CLB system operation is in two scans, **SCAN A and SCAN B.** When wiring the transceivers to the controller note that bar A1 is aligned with bar B1, A2-B2.

5.5/ Each transceiver requires eight wires from the controller, so it is strongly recommended that suggested wire colours be followed to ease installation.

5.6/ Individual wiring of the transceivers is achieved by soldering the wires onto the loose pins provided and fitting them into the pin carrier using the insertion tool provided. Pins can easily be held for soldering by insertion into holes drilled in a block of wood. Extreme care should be taken to ensure that solder is only present inside the bucket of the pin, as any solder on the outside of the pin will prevent the insertion tool from being withdrawn. See FIG 2. Prepare cables as shown.

FIG 2. CABLE TERMINATION

5.7/ When running cable from transceivers into controller it is best to leave enough slack inside controller to enable connection to ANY of the terminals A1 - B2. **NOTE: Shield should not be stripped back further than 50mm from terminal block,** otherwise inadequate shielding and intermittent trips may result.

5.9/ CABLE IDENTIFICATION AND FUNCTION

5.8/ If only a single curtain system is required the following terminals must be bridged together for system to operate;

6-14, 7-15, 8-16, 22-30, 23-31, 24-32.

CONT. TERMINAL	FUNC.	SUGGESTED WIRE COLOUR	TRANSCIVER PLUG NUMBER
1 2 3	13-18VAC 24VDC 13-18VAC 24VDC EARTH not connected	see CS4820N	update 13 Oct 1995.
4 5 6 7 8 9 10 11	A1 +SUPPLY A1 0SUPPLY A1 REC A A1 MONITOR A1 REC SCAN A CLOCK A A1 RED STATUS	RED BLACK YELLOW BROWN GREEN VIOLET BLUE WHITE	1 L 4 7 2 CENTRE 5 N
12 13 14 15 16 17 18 19	A2 +SUPPLY A2 0SUPPLY A2 REC A A2 MONITOR A2 REC B SCAN A CLOCK A A2 RED STATUS	RED BLACK YELLOW BROWN GREEN VIOLET BLUE WHITE	1 L 4 7 2 CENTRE 5 N
20 21 22 23 24 25 26 27	B1 +SUPPLY B1 0SUPPLY B1 REC A B1 MONITOR B1 REC B SCAN B CLOCK B B1 RED STATUS	RED BLACK YELLOW BROWN GREEN VIOLET BLUE WHITE	1 L 4 7 2 CENTRE 5 N
28 29 30 31 32 33 34 35	B2 +SUPPLY B2 0SUPPLY B2 REC A B2 MONITOR B2 REC B SCAN B CLOCK B B2 RED STATUS	RED BLACK YELLOW BROWN GREEN VIOLET BLUE WHITE	1 L 4 7 2 CENTRE 5 N
36 37 38 39	RLY 1 - RLY 1 + RLY 2 - RLY 2 +		
40 41 42 43	RESET A RESET A RESET B RESET B		
44 45 46 47	MUTE 1 MUTE 1 MUTE 2 MUTE 2		
50 51 52 53	LOCKOUT RESET KEYSW. LOCKOUT RESET KEYSW. SSD RELAY OUT. SSD RELAY OUT.		
54 55 56 57 58 59	MASTER CLOCK. SLAVE CLOCK. SLAVE SCAN B. MASTER SCAN A. SLAVE SCAN A. MASTER SCAN B.		

Note : BS6491 Sect 11 requires that "...other devices should not be connected to the internally generated power supplies of the ESSS.."

6/ SETTING UP AND ALIGNMENT PROCEDURE:

6.1/ IMPORTANT :

DO NOT PLUG OR UNPLUG ANYTHING WHILE POWER IS APPLIED TO SYSTEM.

CARE SHOULD BE TAKEN TO ENSURE THAT A CURTAIN IS ESTABLISHED BETWEEN THE TRANSCEIVERS AND NOT A "FALSE CURTAIN" VIA REFLECTION FROM A THIRD OBJECT SUCH AS A MIRROR. WHERE MIRRORS ARE INTENDED TO BE USED, THE INSTALLER SHOULD ALWAYS OBTAIN TECHNICAL ADVICE FROM SIGRA TO ENSURE SAFE INSTALLATION OF EQUIPMENT.

6.2/ FOR TESTING PURPOSES, BRIDGE RESET TERMINALS 40-41 AND 42-43.

6.3/ TWO GREEN STATUS LIGHTS ARE PROVIDED PER TRANSCEIVER, THESE CORRESPOND TO THE TWO RECEIVERS AT EACH END OF THE TRANSCEIVER. THE GREEN STATUS LIGHTS INCREASE IN BRIGHTNESS WITH ALIGNMENT.

EXTINGUISH, AND RELAYS RLY1 AND RLY2 SHOULD BE ENERGISED.

6.5/ TWO CURTAIN SYSTEM

REFER TO FIG 3 FOR CONNECTION DETAILS TO PREVENT CROSS TALK WHEN USING 2 CURTAINS. WHEN A TWO CURTAIN SYSTEM IS REQUIRED, THE TERMINALS LISTED IN 5.6/ ARE NOT TO BE BRIDGED.

ALIGN A1 TO B1 SO THAT THE GREEN STATUS LEDS ON BOTH TRANSCEIVERS ARE BRIGHTEST. ALIGN A2 TO B2 SO THAT THE GREEN STATUS LEDS ON BOTH TRANSCEIVERS ARE BRIGHTEST, AT WHICH TIME RED STATUS LEDS ON ALL FOUR TRANSCEIVERS SHOULD EXTINGUISH.

6.6/ MORE THAN 2 CURTAINS

Addition of slave controllers allows extra curtains to be established. The standard controller is used as a Master, and a Slave controller can be chained to it as shown in FIG 4. Remove jumpers from terminals 54, 55, 56,

57, 58, and 59 of the SLAVE controller only, leave the same connections on the master controller and add the following jumpers from the master to the slave controller boards.

FIG 3. 2 CURTAIN SYSTEMS

6.4/ SINGLE CURTAIN SYSTEM

MAKE SURE THAT TERMINALS ARE BRIDGED AS PER 5.5/ AND APPLY POWER. ALIGN A1 TO B1, NOTE THAT GREEN STATUS LEDS INCREASE IN BRIGHTNESS AS ALIGNMENT IMPROVES. WHEN BOTH TRANSCEIVERS ARE OPTIMALLY ALIGNED TO EACH OTHER, THE RED STATUS LEDs SHOULD

MASTER	SLAVE
54-----55	
57-----58	
59-----56	

In this way, the systems can be treated as separate units. Crosstalk between Transceivers can be avoided by not allowing any "A" Transceivers to see "B" Transceivers (except for Transceivers intended to establish a curtain).

Mute terminals can be connected in parallel or separately. Output relays can be run in series or separately.

RESET, AND OUTPUT RELAY TERMINALS MUST NEVER BE CONNECTED IN PARALLEL.

FIG 5. SINGLE VALVE PRESS

FIG 4.DUAL VALVE PRESS

FIG 6. MIRRORS

7/ TESTING PROCEDURE:

7.1/ FOR EACH CURTAIN IN THE SYSTEM: INSERT THE CORRECT TEST PIECE PROVIDED 50mm for 500 and 770mm transceivers and 110mm for 1200mm transceivers. NOTE THAT THE RED STATUS LEDS ON ALL TRANSCEIVERS MUST COME ON AND NOT GO OFF WHILE THE TESTPIECE IS ANYWHERE IN THE CURTAIN AREA. The curtain area is formed between the endcaps of each transceiver in the curtain.

7.2/ FALSE CURTAINS

When setting up and testing the system, be sure that a "false" curtain has not been established either by Misalignment of the Transceiver Bars or by close positioning to a reflective object. This third object may possibly be a mirror in the case of an intended reflection. But any object can reflect Infrared light under the right conditions and the protected area of the curtain may not be in the intended location or may have dead zones (holes) created within the curtain. See FIG 7.

FIG 7. FALSE CURTAINS

6.7/ MIRRORS

A curtain can be established between two Transceiver Bars via a mirror. Mirrors to suit different lengths of Transceiver Bars are available from Sigra.

Mirrors will attenuate the range of the curtain and care must be taken to ensure "false" curtains are not established. See FIG 6.

THE ANGLE BETWEEN ARMS OF THE REFLECTED CURTAIN MUST BE GREATER THAN 90 deg. UNLESS ADVICE IS SOUGHT FROM SIGRA. THIS MINIMUM ANGLE PREVENTS OBJECTS OTHER THAN THE MIRROR REFLECTING THE CURTAIN AND CREATING AN UNSAFE CONDITION.

8/ FINAL CONNECTION TO MACHINE CONTROL:

8.1/ Once the installer is satisfied that the guard is functioning correctly as per FIG.4, connection of the machine interface can be carried out. See FIG 5A and 5B.

8.2/ Two output relays are provided RLY1. and RLY2. Note that the connections for these relays are marked + and -. **REGARDLESS OF THE VOLTAGE BEING SWITCHED, ENSURE THAT THE MOST POSITIVE POLARITY IS ON THE + TERMINAL. WHEN SWITCHING A.C. THE SIDE OF THE CIRCUIT THAT STAYS LIVE IS CONNECTED TO THE + TERMINAL.**

8.3/ When switching inductive loads eg; contactors, solenoids etc.. arc suppressors will be required across the inductive load **NOT ACROSS THE RELAY CONTACTS (refer FIG.5)**. For inductive loads which draw more than 10VA, slave relays are recommended.

8.4/ Where local regulations do not require two separate MACHINE PRIMARY CONTROL ELEMENTS and your machine control does not have

facility for two separate inputs, you must provide a series link from RLY1-(MINUS) TO RLY2+(PLUS) and can then consider this arrangement as a single relay.

8.5/ The **MUTE** function is available by shorting terminals 44-45 and 46-47 eg; via spare contacts on limit switches etc. BS6491 requires mute selection to be by key operated switch which is to be supplied by the installer.

8.6/ STOPPING PERFORMANCE MONITORING may be required on certain applications, see section 9.

8.7/ SLAVE CONTROLLERS where used can have outputs in series with the Master or separately control part of a machine. ALWAYS CONSULT SIGRA REGARDING APPLICATION OF A SLAVE CONTROLLER.

8.8/ Note that on power-up that the system is in lockout condition and requires the lockout to be reset with the key switch. Removing and restoring power is a good way to test the operation of the Lockout condition and SSD operation.

9/ SAFE INSTALLATION.

Some local Authorities require the use of two MACHINE PRIMARY CONTROL ELEMENTS, (MPCEs), each driven by separate relays (FINAL SWITCHING DEVICES, "FSD"s). The MPCEs must also be monitored for correct operation, an example is provided in FIG. 5, which also provides an example of Stopping performance monitoring (SPM), however it is not possible to anticipate every type of installation, therefore it is essential that the installer have a good knowledge of local regulations and to interface the CLB system to the machine in conformance to those regulations.

9.1/ MUTE CONNECTION.

The guard is muted when terminal 44 is shorted to 45 and terminal 46 is shorted to 47.

10/ FAULT FINDING:

NOTE: THE FOLLOWING PROCEDURES ARE DESIGNED TO AID IN INSTALLATION, AND TO LOCATE FAULTS. BOARD LEVEL REPAIRS SHOULD NOT BE ATTEMPTED WITHOUT CONSULTING SUPPLIER OR MANUFACTURER. TRANSCEIVER

ENCLOSURES SHOULD NOT BE OPENED UNDER ANY CIRCUMSTANCES.

SYMPTOM AND POSSIBLE CAUSES.

1/ GUARDS WON'T LINE UP. GO TO SECT 1

2/ GUARDS TRIP FOR NO REASON. GO TO SECT 2

IF THE ANSWER TO EACH QUESTION IS **YES**, THEN ADVANCE TO THE NEXT QUESTION. IF THE ANSWER IS **NOT YES**, FOLLOW THE *INSTRUCTION* GIVEN AFTER THE QUESTION BEFORE ADVANCING TO THE NEXT QUESTION.

1/ **A/** ARE TRANSCEIVERS WITHIN THE CORRECT LENS TO LENS RANGE SPECIFIED ON SERIAL NUMBER LABEL?(*RE-POSITION TRANSCEIVERS TO CORRECT RANGE OR RETURN TO SIGRA FOR ADJUSTMENT TO REQUIRED RANGE.*)

B/ ARE REST LINKS FITTED?(*FIT RESET LINKS BETWEEN TERMINALS 40-41 AND 42-43 ENSURING THAT TRIP LEDS ARE ON WHILE THE CURTAIN IS OBSTRUCTED OR MIS-ALIGNED.*)

C/ HAVE YOU FOLLOWED THE CORRECT PROCEDURE FOR ALIGNING THE SYSTEM? (*LOOSEN BRACKET SCREWS ON BOTH ENDS OF EACH TRANSCEIVER AND ROTATE EACH TRANSCEIVER SLIGHTLY TO LEFT AND RIGHT, NOTING THAT BOTH GREEN STATUS ON OPPOSITE TRANSCEIVER ARE BRIGHTEST AT OPTIMUM ALIGNMENT. REPEAT PROCEDURE FOR OPPOSITE TRANSCEIVER.*)

D/ DO BOTH GREEN STATUS ON EACH BAR VARY IN BRIGHTNESS WHEN ALIGNED AND MISALIGNED? (*IF ONLY ONE OF THE GREEN STATUS INDICATORS RESPONDS, THEN REPLACE TRANSCEIVER, IF BOTH GREEN INDICATORS FAIL TO RESPOND CHECK WIRING TO TRANSCEIVER BARS AS PER SECT.5.6 OF THE OPERATION MANUAL.*)

E/ ARE TRANSCEIVERS PARALLEL?(*TRANSCEIVERS CAN BE CHECKED FOR PARALLEL BY MEASURING THE LENS TO LENS DISTANCE OF THE CURTAIN AT THE TOP AND THE BOTTOM, WHICH SHOULD BE THE SAME, THEN MEASURING DIAGONALLY FROM THE TOP OF TRANSCEIVER "A" TO BOTTOM OF TRANSCEIVER "B" AND VICE VERSA WHICH SHOULD ALSO BE THE SAME. IF THEY ARE NOT, ADJUST TRANSCEIVER MOUNTING TO SUIT.*)

F/ USING A DIGITAL MULTIMETER, IS 18-24VDC PRESENT ACCROSS TERMINALS 5-4? (HAVING ENSURED THAT NONE OF THE FUSES ARE BLOWN, VERIFY THAT THE CORRECT MAINS ARE BEING SUPPLIED TO THE SYSTEM, THE TRANSFORMER SECONDARY TAPPING MAY NEED TO BE CHANGED IF THE SUPPLY CANNOT BE RECTIFIED.)

G/ IS THE SYSTEM A SINGLE CURTAIN SYSTEM ie: TWO TRANSCEIVERS? (SET THE SYSTEM UP AS A SINGLE CURTAIN SYSTEM AS PER SECT. 5.5 OF THE OPERATION MANUAL. IF A SPARE TRANSCEIVER IS AVAILABLE REPLACE EACH OF THE EXISTING TRANSCEIVERS TO IDENTIFY IF ONE OF THEM IS FAULTY.)

H/ USING A DIGITAL MULTIMETER, IS APPROXIMATELY 6VDC PRESENT ACROSS TERMINALS 5-7. (CHECK WIRING TO TRANSCEIVER "A")

I/ USING A DIGITAL MULTIMETER, IS APPROXIMATELY 6VDC PRESENT ACROSS TERMINALS 21-23. (CHECK WIRING TO TRANSCEIVER "B")

J/ USING A DIGITAL MULTIMETER, WITH THE MINUS LEAD CONNECTED TO 0VDC (TERMINAL 3) CAN YOU MEASURE 9VDC-11VDC AT TERMINALS 6,8,14,16 (CHECK WIRING TO TRANSCEIVER "A"), AND AT TERMINALS 22,24,30,32 (CHECK WIRING TO TRANSCEIVER "B".)

K/ WITH ALL TRANSCEIVERS UNPLUGGED, USING A DIGITAL MULTIMETER, IS APPROXIMATELY 6VDC PRESENT ACCROSS TERMINALS 5-9, 13-17, 21-25, 29-33? (REPLACE CONTROLLER BOARD.)

L/ WITH TRANSCEIVERS PLUGGED IN, USING A DIGITAL MULTIMETER, IS APPROXIMATELY 6VDC PRESENT ACCROSS TERMINALS 5-9(A1 SCAN), 13-17(A2 SCAN), 21-25(B1 SCAN), 29-33(B2 SCAN)? (REPLACE TRANSCEIVER THAT IS LOADING THE SCAN.)

M/ WITH ALL TRANSCEIVERS UNPLUGGED, USING A DIGITAL MULTIMETER, IS APPROXIMATELY 1VDC PRESENT ACCROSS TERMINALS 5-10, 13-18, 21-26, 29-34? (REPLACE CONTROLLER BOARD.)

N/ WITH TRANSCEIVERS PLUGGED IN, USING A DIGITAL MULTIMETER, IS APPROXIMATELY 1VDC PRESENT ACCROSS TERMINALS 5-10(A1 CLOCK), 13-18(A2 CLOCK), 21-26(B1 CLOCK), 29-34(B2 CLOCK)? (REPLACE TRANSCEIVER THAT IS LOADING THE CLOCK.)

C/ AS PER 1E/.

D/ IS CONTROLLER BOARD MOUNTED INSIDE SIGRA CONTROL BOX? (MOUNT CONTROLLER BOARD INSIDE SIGRA CONTROL BOX AS IT PROVIDES SHIELDING)

E/ IS LOOSE WIRING DRAPED ACCROSS THE CONTROLLER PCB? (MOVE ALL LOOSE WIRING AWAY FROM CONTROLLER PCB AND UNSHIELDED SECTIONS OF TRANSCEIVER AND RESET WIRING.)

F/ HAS SHIELDED CABLE BEEN USED FOR CONNECTIONS TO TRANSCEIVERS AND RESET TERMINALS? (RE-WIRE ALL UNSHIELDED TRANSCEIVER AND RESET WIRING WITH SHIELDED CABLE, ENSURING THE SHIELDS ARE CONNECTED TO 0VDC AND NOT EARTH.)

G/ ARE SHIELDS CONNECTED TO 0VOLTS(NOT EARTH)? (SHIELDS MUST BE CONNECTED TO 0VDC AND NOT EARTH.)

H/ ARE THE TRANSCEIVERS FIXED USING THE INSULATION KITS? (RE-FIT TRANSCEIVERS USING INSULATION KITS.)

I/ WITH THE TRANSCEIVER UNPLUGGED AND USING AN OHM-METER (NOT A MEGGER), IS THERE NO CONTINUITY FROM EACH TRANSCEIVER BRACKET SCREW TO EARTH? (FIT TRANSCEIVER INSULATION KITS)

J/ IS THE EARTH REFERENCE DISCONNECTED FROM TERMINAL 3? (DISCONNECT EARTH REFERENCE WIRE FROM TERMINAL 3.)

K/ ARE THE TRANSCEIVERS MOUNTED SECURELY SO THAT THEY CANNOT BE MISALIGNED THROUGH BUMPING OR VIBRATION? (MOUNT TRANSCEIVERS SECURELY.)

2/GUARDS TRIP FOR NO REASON

2/ **A/** AS PER 1A/.
B/ AS PER 1C/.

11/ SPECIFICATIONS:

MODE OF OPERATION: PULSE MODULATED INFRARED

POWER REQUIREMENTS:

CLCBB/240.....240V A.C.

CLCBB/115.....115V A.C.

CLCBB/24 24VDC

OUTPUT: TWO NORMALLY OPEN, 6A, 250V RELAYS

RESOLUTION:CL500B and CL770B less than 50mm. CL1200B less than 120mm

CURTAIN HEIGHTS: 500mm, 770mm, 1200mm.

CURTAIN RANGES: 1 to 50 metres MAX CABLE RUN 50 METRES

RESPONSE TIME: less than 20mSec.

OPERATING TEMP.: 0⁰C to 50⁰C(0-100%RH)

POWER CONSUMPTION: CONTROL UNIT: 15.6VA

 TRANSCIEVER: 1.2VA

ENVIRONMENTAL PROTECTION: IP65

Dust ignition proof available.

The CLB system uses state of the art electronics. Advances in technology may cause specification changes from time to time.

ORDERING INFORMATION STANDARD AND REPLACEMENT PRODUCTS;

TRANSCIEVER TYPE

AVAILABLE RANGES

CL500B, CL770B

1-2M, 2-6M, 6-20M.

CL1200B

1.5-2M, 2-6M,6-20M.

CL500BLR, CL770BLR, CL1200BLR

Over 20M

MIRRORS.....**CL500M, CL770M, CL1200M**

CHEMICAL SEALING KITS

FOR CAUSTIC WASHDOWN AREAS.....**CL500SK, CL770SK, CL1200SK**

Controllers will run 1 or 2 curtains (2 or 4 transceivers)

CONTROLLER 115VAC**CLCBB/115**

CONTROLLER 240VAC**CLCBB/240**