

NORBIT SUB-ASSEMBLIES YL. 6000 SERIES

Rf3
6/63

NORBIT STATIC SWITCHING ELEMENTS

The Norbit, a multi-input single-output logic element, is capable of performing all the switching operations normally associated with combinational and sequential control circuits.

Introduction

Since the introduction of the Norbit range a number of new units have been added. This second edition of the Norbit Handbook includes these new units and recommendations in using them and other units in the range.

1. The Norbit range now consists of the following units:

	Description	Abbreviation	*Colour Code	Type Number
a)	Norbit	Nor	Red	YL6000
b)	Twin 2-input Norbit	2.2 Nor	Black	YL6012
c)	Emitter Follower unit	EF	Yellow	YL6001
d)	Low Power Output unit	LP	White	YL6009
e)	Medium Power Output unit	MP	Orange	YL6008
f)	**High Power Output unit - complete	HP	Not used	YL6004
g)	Counter unit (Triple Binary)	3C	Violet	YL6005/00
h)	Single divide by 2 counter unit	1C	Violet	YL6005/05
i)	Timer unit	TU	Brown	YL6006
j)	Chassis unit	ch	-	YL6007
k)	Photo-Electric Detector Head	PD	-	YL6010
l)	Photo-Electric Lamp Head	PL	-	YL6011

*The colour code of each unit consists of either a coloured spot on the casing, or the casing itself in that colour.

**Two high power output units mounted on panel.

2. General description of the units:

(a) Norbit - Type YL6000 (Colour Code - Red)

This unit is the basic NOR transistor/resistor logic unit, mounted inside a plastic case measuring 2.5 in. (64mm.) x 1.593 in. (42mm.) x 0.468 in. (12mm.)

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There is a single mounting screw for the complete unit.

External connections are made by flexible wires which extend approximately 3.75in. (95mm.) out of the case. Two test points in the form of protruding pins are mounted on the top of the case. The circuit is arranged to accept 6 inputs and has an output capable of driving 6 other Norbits.

(b) Twin 2-input Norbit - Type YL6012 (Colour Code - Black)

This unit, mounted inside a case similar to that of the YL6000 Norbit, consists of two Norbit circuits each of which has 2 inputs and is capable of driving 6 other Norbits. Test points for each unit are provided on top of the case.

(c) Emitter Follower unit - Type YL6001 (Colour Code - Yellow)

This unit is housed in a plastic case similar to that of the YL6000 Norbit and is a common-collector non-inverting amplifier. The unit is capable of driving 17 Norbits type YL6000 or 1 Medium Power Output unit type YL6008. Test points are provided on top of the case.

(d) Low Power Output unit - Type YL6009 (Colour Code - White)

This unit may be driven by the output from a standard Norbit circuit which may also drive two other Norbit inputs. In addition to improved input flexibility a dual-purpose unit has been provided to drive either a lamp or a relay; in this respect, facilities are identical with the former lamp-output and relay-output units which drive a 2.4-watt lamp or a 650-ohm relay. This circuit is also housed in the standard Norbit case.

(e) Medium Power Output unit - Type YL6008 (Colour Code - Orange)

This unit occupies 3 positions on a standard chassis and is designed to switch loads of up to 1.5 amps; if the load is inductive, a diode must be connected between the output and the -24 volt supply. The unit must be driven by an Emitter Follower type YL6001, which must be fed from a Norbit output with no other loads attached. If desired, the Emitter Follower may feed three Norbit inputs in addition to the Medium Power Output unit type YL6008.

(f) High Power Output unit - Type YL6004 (Colour Code - not used)

Two independent high-power circuits are mounted on a chassis of overall dimensions 0.75in. (19mm.) x 2.625in. (66mm); terminal blocks are provided at each end of the chassis for input and output connections.

N.B. One high-power circuit only is shown in the circuit diagram in the relevant data sheet.

Each unit is designed to be driven by a low-power unit and is capable of switching a resistive load of 6 amps at 24 volts. When the unit is used with an inductive load, a diode must be used across the load. Care should be taken in the location of this unit in a system. The unit must be provided with adequate ventilation and be placed at the top of the system to prevent overheating the other units.

- (g) Counter Unit (Triple Binary) - Type YL6005/00 (Colour Code - Violet).

This unit consists of 3 binary counters (bi-stable multivibrators) mounted on a chassis with each counter built up from three standard Norbit type units. The unit has one input terminal and can be driven by a Norbit unit type YL6000 or an Emitter Follower unit type YL6001; each output is capable of driving one Emitter Follower or two Norbits.

- (h) Single Divide by 2 counter unit - Type YL6005/05 (Colour Code - Violet).

This is a single divide by 2 circuit consisting of one each of the following single plastic case units:- MA32155, MA32156 and MA32157. The performance is identical with that of the individual parts of the Triple counter YL6005/00 and is supplied as a loose set of units for the user to carry out his own interconnections and mounting.

- (i) Timer unit - Type YL6006 (Colour Code - Brown)

The timer unit is housed on a chassis of overall dimensions 9.75in. (245mm.) x 2.625in. (66mm.). Terminal blocks are provided at each end of the chassis for input and output connections. The unit is designed to provide time delays in the range 0.1 second to 60 seconds, depending on the value of capacitor used. The output of the unit is capable of driving 6 Norbits; the input can be fed from an Emitter Follower or a Norbit.

- (j) Chassis unit - Type YL6007 (Colour Code - not used)

The mounting chassis is pierced for the accommodation of 12 plastic case units. The units are fixed to the chassis and secured with a single nut. The chassis is equipped with 2 terminal blocks one at each side; each terminal block has 5 contacts.

- (k) Photo-Electric Detector Head - Type YL6010 (Colour Code - not used)

The detector unit consists of a temperature-compensated circuit mounted on a printed-wiring board. The photo transistor, which is mounted separately, is adjustable for various focus settings but before leaving the manufacturer the unit is adjusted so that it is focused at infinity.

The printed-wiring board together with the photo transistor is housed inside a stout metal casing, the dimensions of which are given in the Data Sheet. The light enters the unit via a 5/8in. lens, which is mounted at one end of the unit. Terminations are made by a 6-core cable of length 6 ft., secured at the other end of the unit.

The whole assembly is sealed to make it completely splash and dust proof. The output drive is similar to that of a Norbit and is capable of delivering 6 drive units of power. It is intended that this unit should be used in conjunction with the Photo Electric Lamp Head type YL6011; the unit then operates satisfactorily at distances up to 8 ft.

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(1) Photo-Electric Lamp Head - Type YL6011 (Colour Code - not used)

This lamp head resembles the Photo-Electric Detector Head type YL6010 in appearance. The lamp is mounted inside the case and is adjustable for various ranges of focus. The unit is supplied with a termination cable 6 ft. in length and the whole assembly is sealed to render it completely splash and dust proof.

Manufacture

Before assembly all the components used in the units are carefully checked and all units are given a thorough functional test before despatch. Random units are subjected to a climatic test and a functional test.

Assembly

Assembling Norbits into a system is quite a simple matter. Mounting channels type YL6007, pierced to accommodate twelve norbits, are available for the purpose; they are equipped with a set of terminal blocks at each end, for input and output signals and power supply. The Norbits are fixed to the chassis by a single nut.

We recommend that insulated crimp connectors are used for all chassis wiring. The wire ends from each Norbit are sufficiently long to connect to any other Norbit on the same chassis. Wiring between chassis is effected via the terminal block on each chassis.

Any unused inputs on the units may either be cut off to reduce the amount of wire under each chassis or left floating; it is not recommended that spare inputs are wired to earth.

Performance

All the Norbit range of units work on the d.c. signal technique whereby any one unit may be connected directly to another unit or number of other units without fear of feedback troubles experienced in switching circuits.

Permitted Variations in Supply Voltages

Because of spurious voltage spikes superimposed on the mains, it is of paramount importance that the +24V and -24V d.c. supplies are maintained within $\pm 2\%$ of nominal. This tolerance may be extended to a maximum of +6% -20% where the operation is not critical.

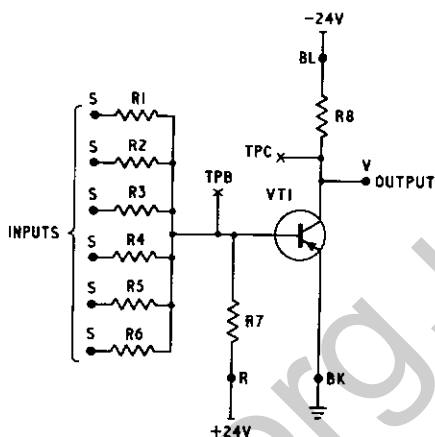
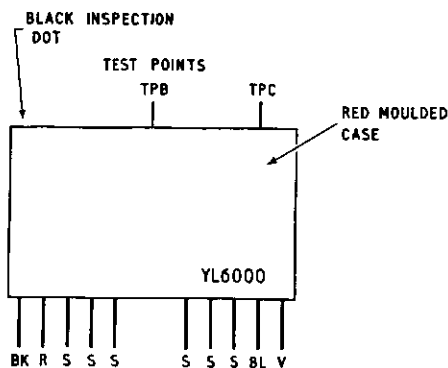
NORBIT STATIC SWITCHING ELEMENTS

LOADING TABLE

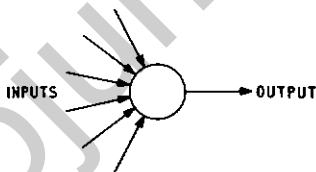
The inputs and outputs of different units may be interconnected directly. Some units require more power than others to drive them; some units are capable of delivering more power than others. The power required to drive one input of a Norbit is defined as "One Drive Unit" (abbreviated to d.u.) and the amount of power it is capable of delivering as "six drive units" (6 d.u.). Below is a table based on this expressed in d.u.; from it one can see that an Emitter Follower requires 6 d.u. This can be derived from a Norbit with no other outputs connected. The output of the Emitter Follower is capable of producing 17 d.u. which is equivalent to operating 17 Norbits or 1 medium power output stage and 3 Norbits.

TYPE	INPUT MUST BE DRIVEN BY (DRIVE UNITS)	DRIVE UNITS AVAILABLE AT OUTPUT
NORBIT YL6000	1	6
TWIN 2-INPUT NORBIT YL6012	1	6
EMITTER FOLLOWER YL6001	6	17
LOW POWER OUTPUT UNIT YL6009	4	Capable of operating a 650-ohm relay, 2.4 watt lamp or High Power output unit.
MEDIUM POWER OUTPUT UNIT YL6008	14	24 volts, 1.5 amps.
HIGH POWER OUTPUT UNIT YL6004	Low power output unit YL6009	24 volts, 6 amps.
COUNTER UNIT YL6005	The input to the Counter Unit is capacitive and therefore does not conform with other items in the loading table. The loading for each output is as follows:-	
	1 Counter +2 Norbits or 1 Counter +1 Emitter Follower or 1 Emitter follower or 2 Norbits	
	The input must be driven by 4 d.u.	
TIMER UNIT YL6006	Input (1) 4 (2) 5	6
PHOTO ELECTRIC DETECTOR HEAD YL6010	From light source	6

DATA SHEET



1. Dimensions: 2.5in. (64mm.) x 1.65in. (42mm.) x 0.47in. (12mm.)
2. Weight: 1.46 oz. (41 grams)
3. Description: This unit comprises a transistor-resistor logic (TRL) circuit and is capable of performing the logic functions AND, OR and NOT.
4. Drawing symbol:



5. Supply: -24V d.c. +6% -20% 5mA (For permitted variations in supply voltages, refer to the appropriate paragraph in the Introduction).
+24V d.c. +6% -20% 0.25mA
6. Temperature range: -10°C to +50°C.
7. Switching rate: 1000 per second maximum.
8. Input data: The unit has 6 input terminals. The input signals can be derived either from a previous unit: Norbit YL6000, Emitter Follower YL6001, Counter Unit YL6005, Timer Unit YL6006 - or from a suitable transducer.

WARNING: At least one input to the unit must have a d.c. earth return path whenever the supplies are connected, otherwise damage to the unit may result.

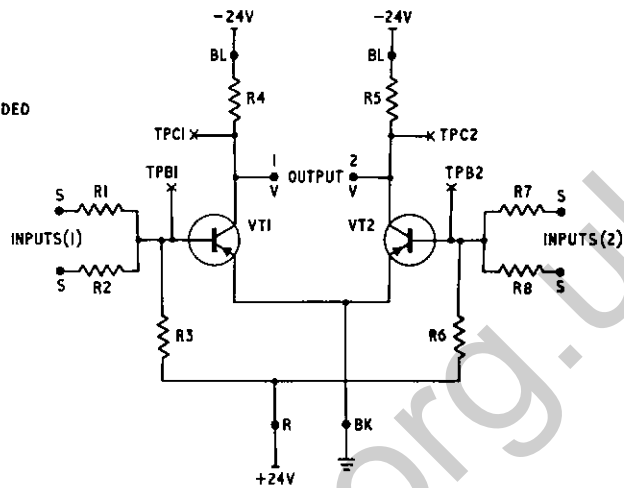
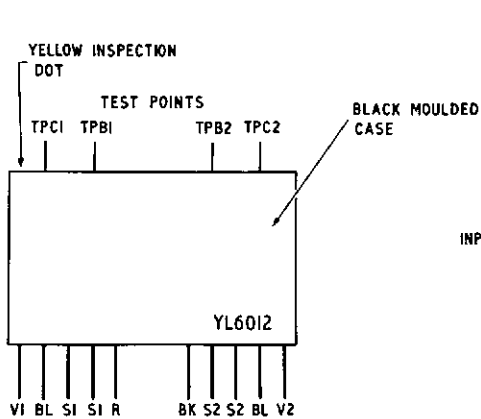
9. Output data: The unit is capable of driving 6 other Norbits or one Emitter follower unit YL6001.

TWIN 2-INPUT NORBIT

YL. 6012

2.2
Nor

DATA SHEET

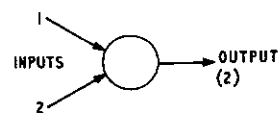
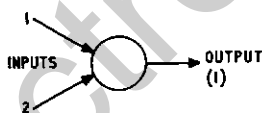


Description

This unit is complementary to the standard NOR unit YL6000 and provides two NOR circuits in a single unit, each accepting two inputs and being capable of driving six other NOR units. The input to the unit is derived from either a previous NOR unit or from a suitable transducer.

Specification

- Dimensions: 2.5 in. (64mm.) x 1.593 in. (42mm.) x 0.468 in. (12mm.)
- Weight: 1.32 oz. (37.5 grams.)
- Drawing Symbol:



- Supply: -24V d.c. +6%-20%, 5mA each section.
+24V d.c. +6%-20%, 0.25mA each section.

5. Output:

- Driven output voltage $< -0.2V$.
- Maximum switching rate is approximately 1000 per second.

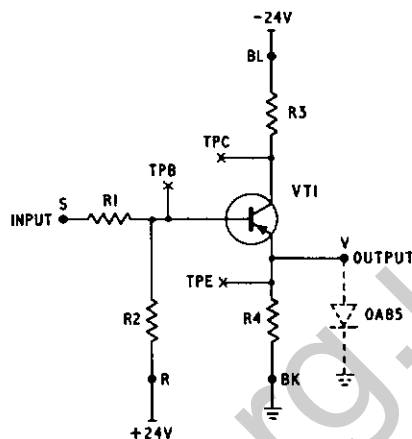
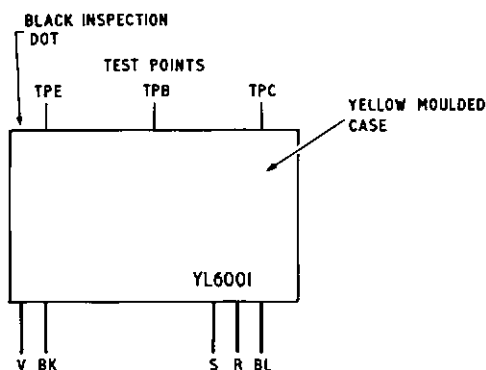
(For permitted variations in supply voltages, refer to the appropriate paragraph in the Introduction)

WARNING At least ONE input to the unit must have a d.c. earth return path whenever the supplies are connected, otherwise damage to the unit will result.

EMITTER FOLLOWER UNIT

YL. 6001

DATA SHEET



1. Dimensions: 2.51in. (64mm.) x 1.66in. (42mm.) x 0.475in. (12mm.)
2. Weight: 1.18 oz. (33 grams)
3. Description: This unit comprises a transistor amplifier in common-collector connection.
4. Drawing symbol:



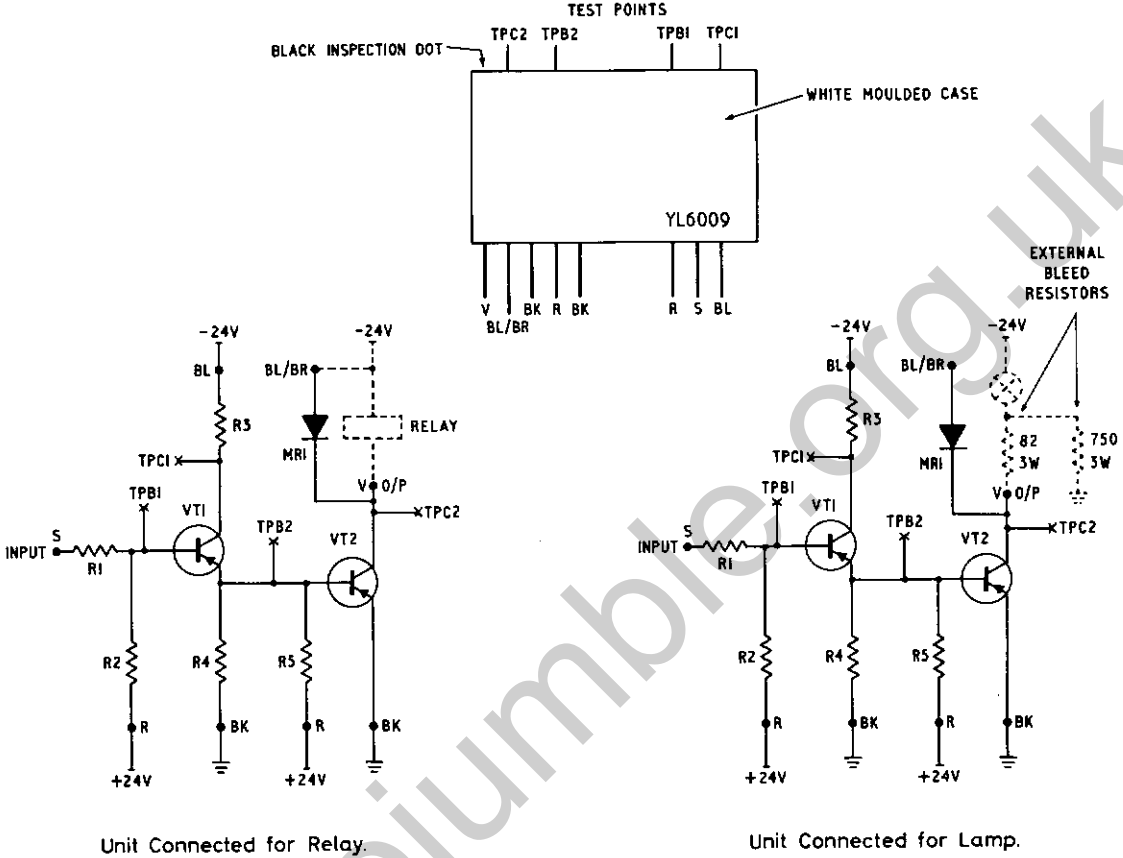
5. Supply: - 24V d.c. + 6%-20%, 10mA (For permitted variations in supply + 24V d.c. + 6%-20%, 0.5mA voltages, refer to the appropriate paragraph in the Introduction).
6. Temperature range: -10°C to +50°C.
7. Switching rate: 1000 per second maximum.
8. Input data: The unit has 1 input terminal. The input signal can be derived from a previous unit e.g. Norbit YL6000, Counter Unit YL6005 or Timer Unit YL6006.

WARNING: The input to the unit must have a d.c. earth return path whenever the supplies are connected, otherwise damage to the unit may result.

9. Output data: The unit is capable of driving: 17 Norbits YL6000 or 1 Medium Power Output Unit YL6008 (see loading table).

NOTE: With the loading above, an external diode (shown in the circuit diagram) is necessary, except when less than 10 Norbits YL6000 are driven.

DATA SHEET



Description

This unit is designed to operate either a 24-volt, 650-ohm relay or a 24-volt, 120mA lamp. It may also be used as a driver stage for the High Power Output Unit type YL6004. Bleed and current-limiting resistors are required when the unit is driving a lamp. These resistors are external to the unit and should be fitted by the customer.

Specification.

1. Dimensions: 2.5 in. (64mm.) x 1.593 in. (42mm.) x 0.468 in. (12mm.)
2. Weight: 1.36 oz. (38.6 grams.)
3. Drawing Symbol:



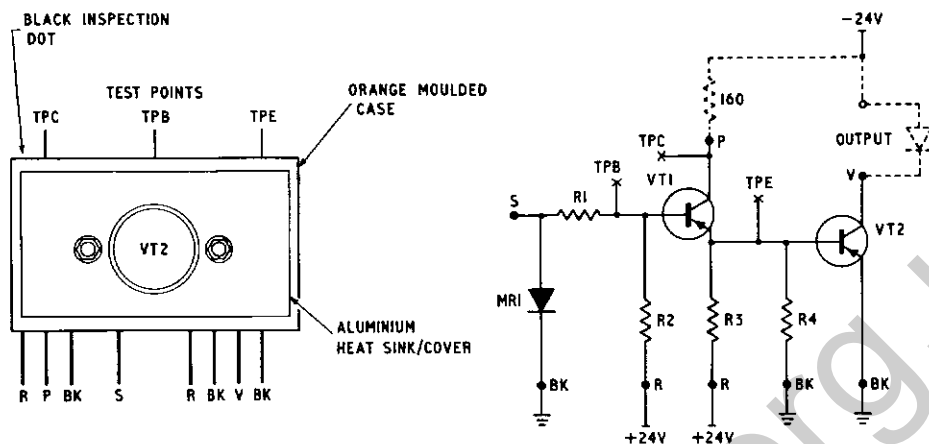
YL. 6009

4. Supply: -24V d.c. + 6%-20%, 37mA (650-ohm relay), 109mA (lamp).
+24V d.c. + 6%-20%, 1mA (650-ohm relay or lamp).
5. Input Data: The unit may be driven by a Nor type of drive, e.g. NOR unit, Timer unit, Photohead or Emitter Follower (see loading table).
6. Loads:
 - (a) Relay with a coil resistance of 500 ohms or more using the internal diode for voltage surge suppression.
or
 - (b) 24V, 120mA lamp (or smaller wattage) with external resistors.
7. Driven output voltage: ∇ -0.25V.
8. Temperature range: -10°C. to +50°C.

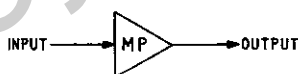
MEDIUM POWER OUTPUT UNIT

YL. 6008

DATA SHEET



1. Dimensions: 2.5in. (64mm.) x 1.64in. (42mm.) x 1.24in. (32mm.) overall.
2. Weight: 2.5 oz. (70 grams)
3. Description: The unit comprises two amplifying stages, the first in common-collector connection, the second in common-emitter connection. The circuit is housed in a plastic case, the power transistor T2 being mounted outside on an aluminium heat sink. The external 160-ohm resistor is delivered with the unit and must be mounted by the customer (see circuit diagram).
4. Drawing symbol:

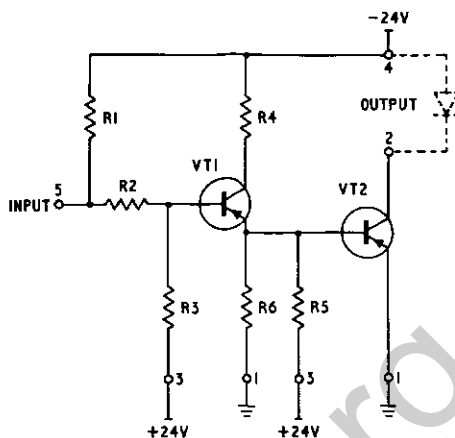


5. Supply: -24V d.c. +6% -20%, 0-1.5A
+24V d.c. +6% -20%, 0.16mA
6. Temperature range: -10°C to +50°C.
7. Input data: The unit has 1 input terminal and must be driven by an Emitter Follower unit YL6001.
8. Output data: The unit is capable of driving a load with a minimum d.c. resistance of 16 ohms. The peak current must not exceed 1.5A. With an inductive load, an external clamping diode must be connected across the load. The diode must have a permissible reverse voltage of 24V minimum and a permissible forward peak current of 1.5A minimum.

TWIN HIGH-POWER OUTPUT UNIT

YL. 6004

DATA SHEET



NOTE: the figures at the terminals in the circuit diagram refer to the contact figures on the terminal blocks.

1. Dimensions: 10in. (255mm.) x 2.75in. (70mm.) x 1.58in. (40mm.) overall.
2. Weight: 9.6 oz. (270 grams).
3. Description: The unit consists of 2 high-power amplifiers each comprising a common-collector stage and common-emitter stage.
4. Drawing Symbol:



5. Supply: -24V d.c. maximum -26V d.c.; minimum +6%, 0 to 6A
+24V d.c.; +6% -20%, 70mA.

The current through this unit may be a large part of the total supply current. This can give rise to difficulties in the regulation of the logic power supply. In such instances it may be desirable to supply this high-power output stage from a separate power supply, possibly unregulated. The maximum ripple on the negative supply is limited by two factors:-

- a) chatter of the external contactor.
- b) decrease of the available power.

N.B. The regulation of the power supply for this unit must be such that the transistor current is limited to a maximum of 6A.

6. Temperature range: -10°C to +50°C.

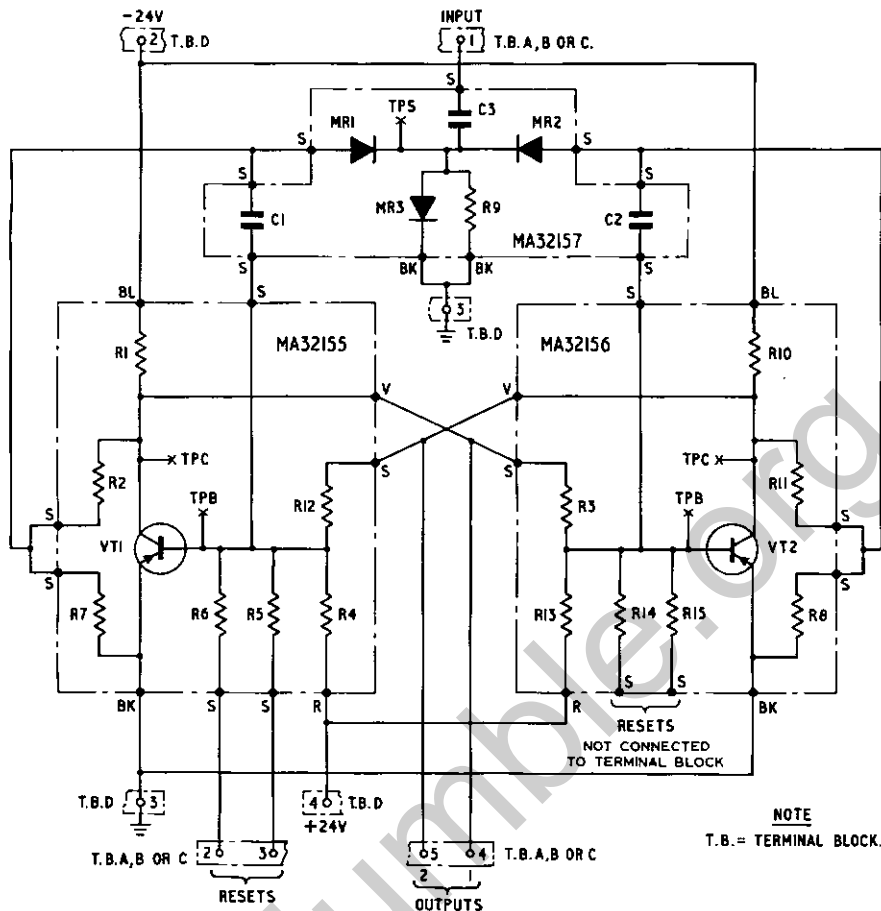
YL. 6004

7. Input data: The unit has 1 input terminal and must be driven by a Low Power Output unit YL6009 (no external resistors are required).
8. Output data: The unit is capable of driving a load with a minimum d.c. resistance of 4.3 ohms. The peak current may not exceed 6A. With an inductive load, an external clamping diode must be connected across the load as shown in the circuit diagram. The diode must have a permissible reverse voltage of 24V minimum and a permissible forward peak current of 6A minimum.

TRIPLE BINARY COUNTER

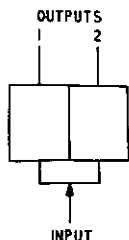
YL. 6005/00

DATA SHEET



- A: counter I.
- B: counter II.
- C: counter III.
- D: supply for the 3 counters.

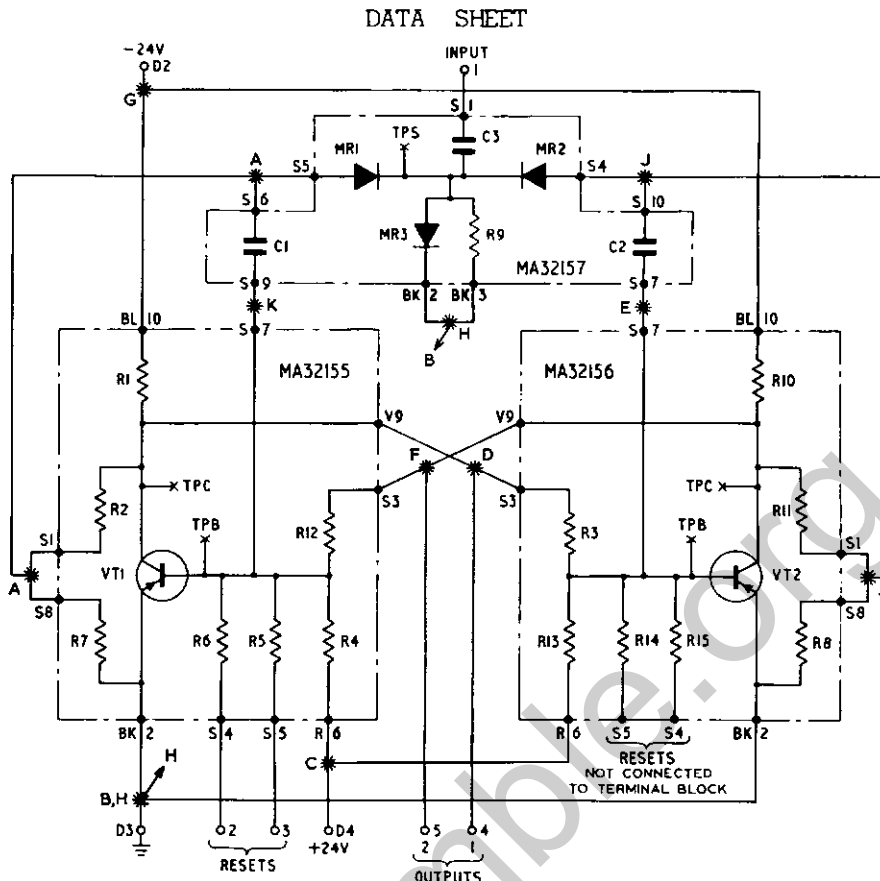
1. Dimensions: 10in. (255mm.) x 2.75in. (70mm.) x 2.45in. (62mm.) overall.
2. Weight: 21.25oz. (570 grams)
3. Description: The unit consists of 3 binary counters (bistable multi-vibrators) mounted on a chassis. Each counter is built up from 3 plastic case units.
4. Drawing symbol:



YL. 6005/00

5. Supply: -24V d.c. +6% -20%, 5mA. (For each single counter.
+24V d.c. +6% -20%.0.35mA. For permitted variations in
supply voltages, refer to the
appropriate paragraph in the
Introduction)
6. Temperature range: -10°C to +50°C.
7. Counting rate: 500 per second.
8. Input data: The unit has 1 input terminal and can be driven by a
Norbit YL6000 or an Emitter Follower unit YL6001. The counter is
switched by a negative-going voltage step.
9. Output data: The unit is capable of driving 1 Emitter Follower unit
YL6001 or 2 Norbits YL6000 from each output of the counter.

SINGLE COUNTER UNIT (Divide by 2 Circuit) YL. 6005/05

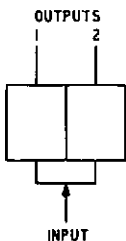


NOTE:- FIGURES AND LETTERS MARKED THUS: * ARE SHOWN ON THE INTERCONNECTION DIAGRAM.

SINGLE COUNTER STAGE YL6005/05

1. Dimensions: 3 units, each of dimensions 2.518in. (64mm.) x 1.660 in. (42mm.) x 0.475in. (12mm.)
2. Weight: 3.6 oz. (100 grams)
3. Description: The unit consists of three separate plastic case units each containing a constituent part of the circuit of a bistable multivibrator. The interconnections are clearly shown in the diagrams above.

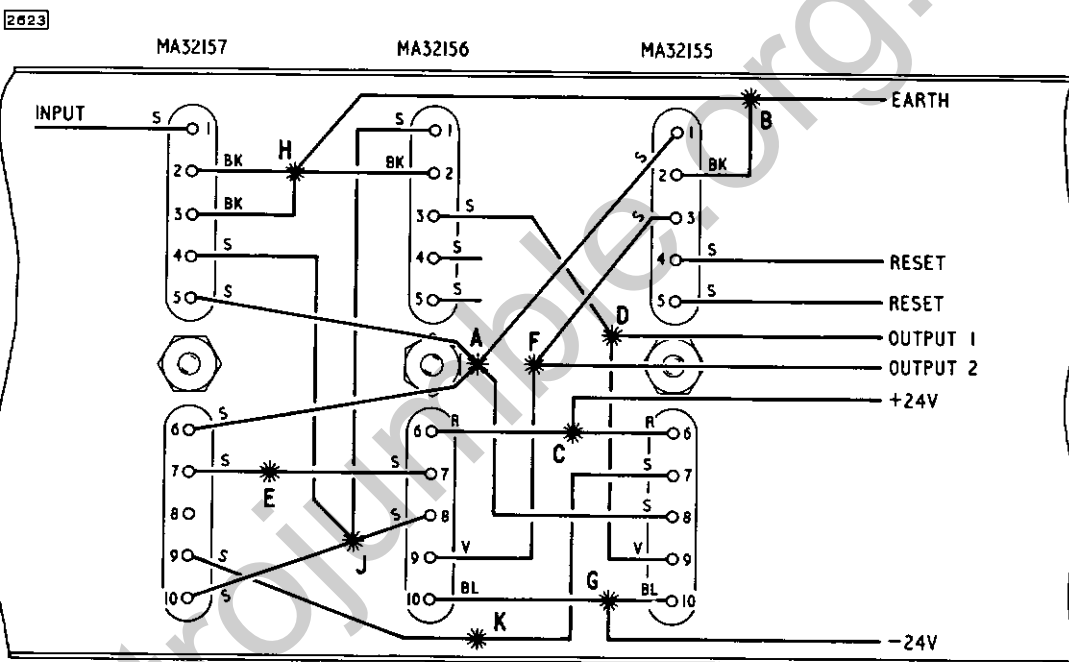
4. Drawing symbol:



5. Supply: -24V d.c. + 6% - 20%, 5mA For permitted variations in supply voltages, refer to the appropriate paragraph in the Introduction.
 +24V d.c. + 6% - 20%, 0.35mA

YL. 6005/05

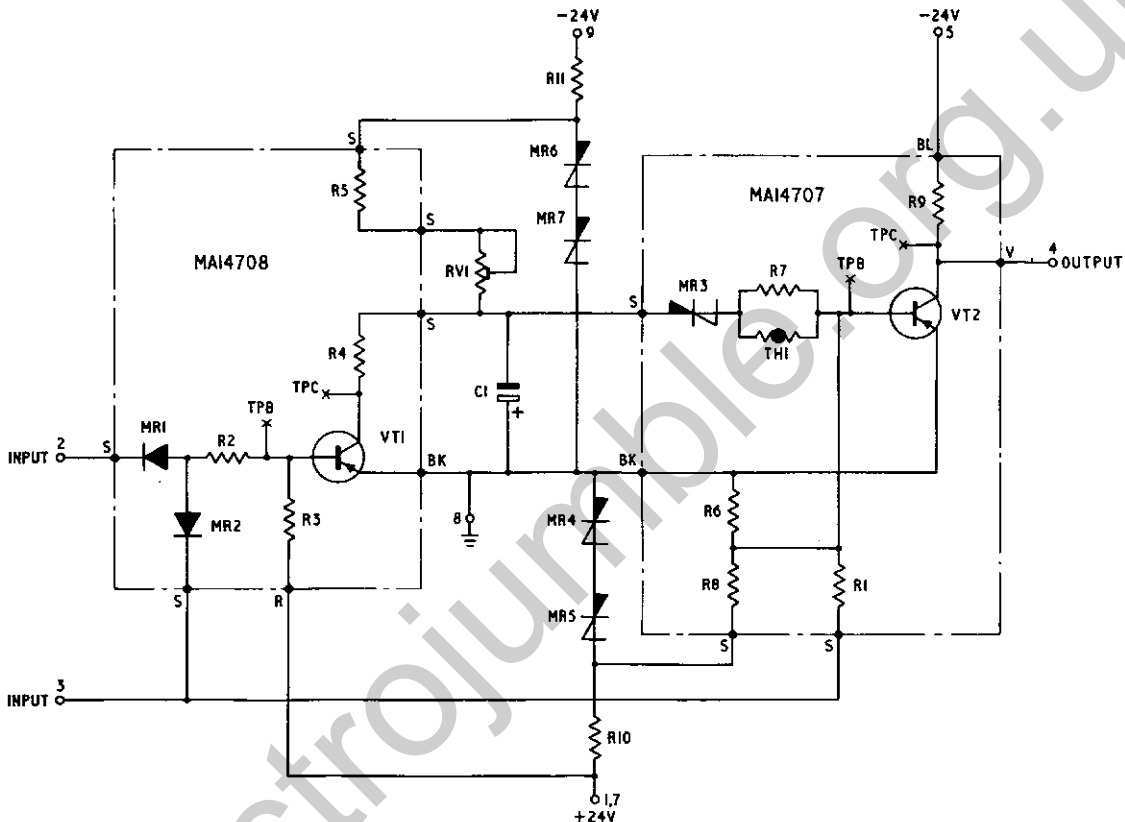
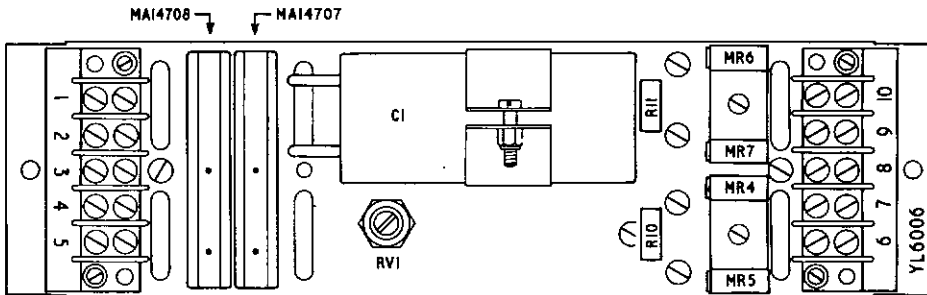
6. Temperature range: -10°C to +50°C.
7. Counting rate: 500 per second.
8. Input data: The unit has 1 input terminal and can be driven by a Norbit YL6000 or an Emitter Follower unit YL6001. The circuit is switched by a negative-going pulse.
9. Output data: The unit is capable of driving a further Counter circuit or Emitter Follower or two Norbits from each output.



CRIMPED CONNECTIONS SHOWN THUS: *

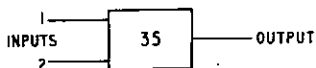
UNDER CHASSIS VIEW OF SINGLE ÷2 COUNTER STAGE.

DATA SHEET



NOTE: the figures at the terminals in the circuit diagram refer to the contact figures on the terminal blocks.

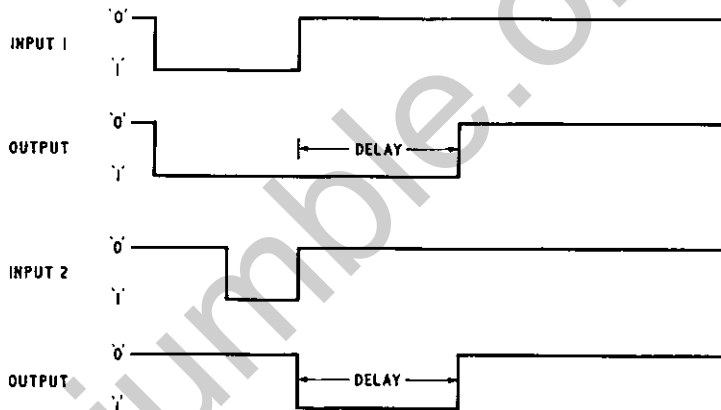
1. Dimensions: 10in. (255mm.) x 2.75in. (70mm.) x 2.75in. (70mm.) overall.
2. Weight: 14.4 oz. (405 grams)
3. Drawing symbol:



4. Description: The unit comprises a monostable multivibrator and is capable of providing delays from 0.1 second to 60 seconds depending on the value of capacitor C1.

YL. 6006

5. Supply: -24V d.c. +6% -20%, 8mA (For permitted variations in
+24V d.c. +6% -20%, 0.5mA supply voltages, refer to the
appropriate paragraph in the
Introduction)
6. Temperature range: 0°C to +50°C.
7. Input data: The unit has 2 input terminals and must be driven by a
Norbit YL6000 or an Emitter Follower unit YL6001.
8. Delay time: On input 1, a change from '0' to '1' produces an
output falling immediately from '0' to '1'. The output remains
at this level while a '1' signal is present at the input; at
the cessation of the input signal, the output stays at '1' for
the delay period and then reverts to '0'. On input 2, a change
from '0' to '1' produces no change in output until input 2 re-
verts to '0'. The output then changes immediately to a '1'
and remains in this state for the delay period before return-
ing to '0'.



NOTE: The delay time is dependent on the value of capacitor C1 and the adjustment of potentiometer RV1. The relation between capacitance and delay time is given in the table below.

Capacitance in μF	Delay time in seconds	Capacitance in μF	Delay time in seconds
3000	40 - 60	250	1.4 - 3.7
2000*	16 - 40	150	0.8 - 2.2
1500	8 - 22	100	0.5 - 1.4
1000*	5 - 13	50	0.3 - 0.8
500	3 - 9	25	0.2 - 0.45
350	2 - 5	16	0.1 - 0.23

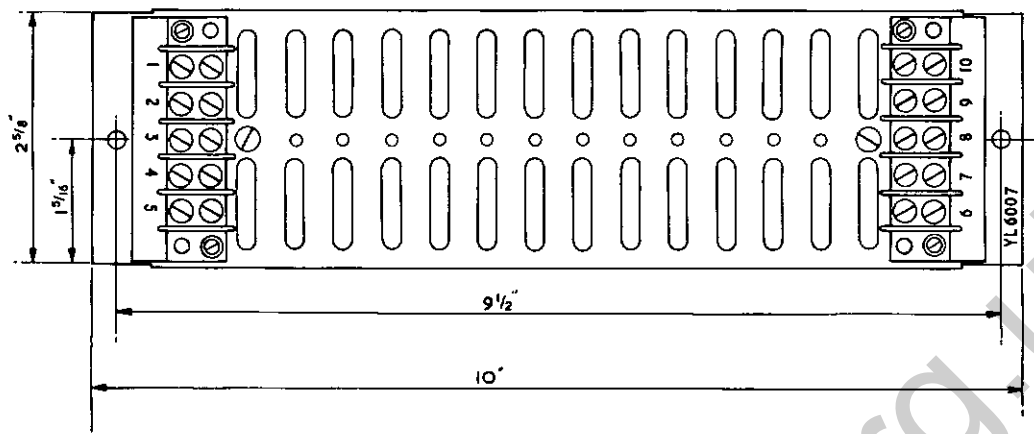
The units marked * are stock items having the code number YL6006/00 (delay time 16-40 seconds), YL6006/01 (delay time 5-13 seconds).

Accuracy: In general, long delay times are not required to a high degree of accuracy. Electrolytic capacitors have been used; consequently, differences in delay time caused by temperature changes are determined by the temperature coefficient of electrolytic capacitor C1.

Changes in delay time, caused by mains supply fluctuations, are negligible in comparison with the temperature - coefficient variations mentioned above.

9. Output data: The unit is capable of driving 6 Norbits YL6000, 1 Emitter Follower unit YL6001 or 1 Counter unit YL6005.

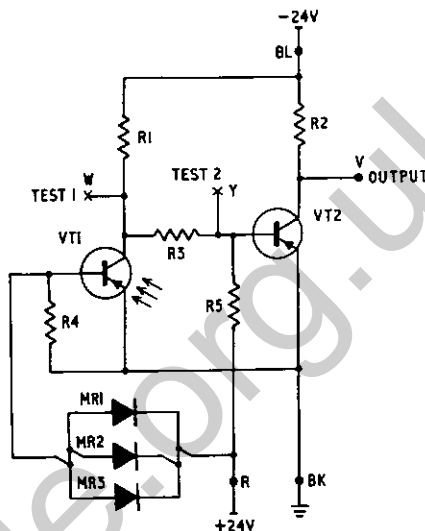
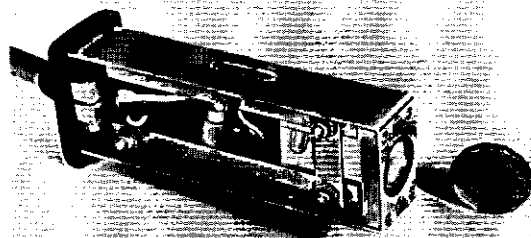
DATA SHEET



MOUNTING CHASSIS - PLAN VIEW

1. Dimensions: 10.1in. (255mm.) x 2.75in. (70mm.) x 1.22in. (31mm.) overall.
2. Weight: 5.3 oz. (149 grams)
3. Material: Aluminium
4. Description: The mounting chassis is pierced for the accommodation of 12 plastic case units. The units are fixed to the chassis and secured with a single nut. The chassis is equipped with 2 terminal blocks one at each end; each terminal block has 5 contacts.

DATA SHEET



Description

The detector unit consists of a temperature-compensated circuit mounted on a printed-wiring board. The photo transistor, which is mounted separately, is adjustable for various focus settings but before leaving the manufacturer the unit is adjusted so that it is focused at infinity.

The printed-wiring board together with the photo transistor is housed inside a stout metal casing, the dimensions of which are given below. The light enters the unit via a 5/8 in. dia. lens, which is mounted at one end of the unit. Terminations are made by a 6-core cable of length 6 ft., secured at the other end of the unit.

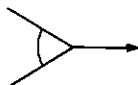
The whole assembly is sealed to make it completely splash and dust proof. The output drive is similar to that of a Norbit and is capable of delivering 6 drive units of power. It is intended that this unit should be used in conjunction with the Light Unit type YL6011; the unit then operates satisfactorily at distances up to 8 ft.

Specification

1. Dimensions: 1 in. (25.4mm.) x 1.5 in. (38.1mm.) x 4 in. (101.6mm.) length.
2. Weight: 13.74 oz. (388 grams).

YL. 6010

3. Drawing Symbol:

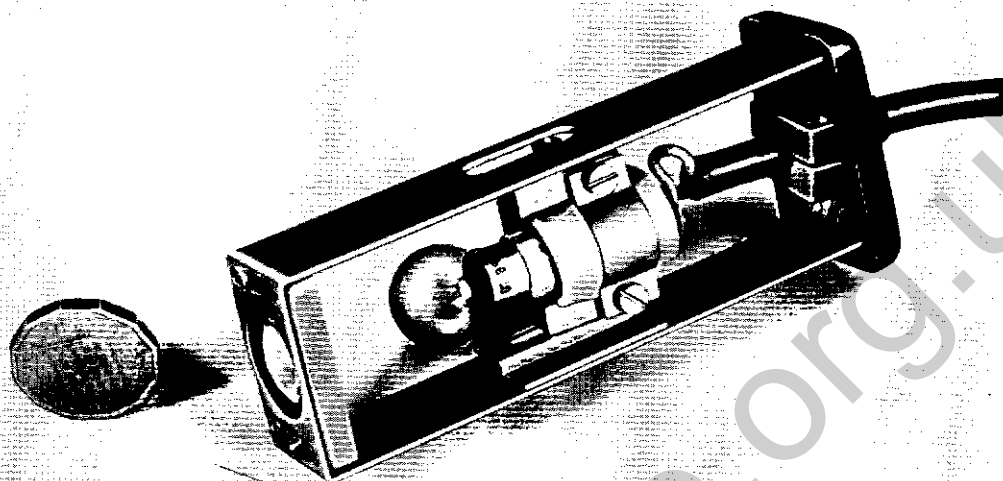


4. Supply: -24V d.c. +6% -20% (For permitted variations in supply voltages, refer to the appropriate paragraph in the Introduction)
+24V d.c. +6% -20%
5. Output: The output of the unit is a '1' signal when the light on the unit is uninterrupted.
- The output of the unit is capable of delivering 6 drive units of power. This is equivalent to driving 6 Nor units or one Emitter Follower etc.
6. Installation: The white test point lead must be used during the initial installation. The alignment of the lamp unit and photo head should be such that the output voltage on this lead should be less than -0.3V when the light is uninterrupted. When the light is interrupted, a reading of -10.8V to 13.1V may be expected.
7. Temperature: The unit is capable of working satisfactorily at temperatures from 0 to 50°C.

PHOTO-ELECTRIC LAMP HEAD

YL. 6011

DATA SHEET

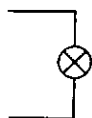


Description

This lamp head resembles the Photo-Electric Detector Head type YL6010 in appearance. The lamp is mounted inside the case and is adjustable for various ranges of focus. The unit is supplied with a termination cable 6 ft. in length and the whole assembly is sealed to render it completely splash and dust proof.

Specification

1. Dimensions: 1 in. (25.4mm.) x 1.5 in. (38.1mm.) x 4 in (101.6mm.) length.
2. Weight: 12.67 oz. (359 grams).
3. Drawing Symbol:



4. Supply: A 6-volt lamp is used but for maximum life it is advisable to use a supply of 5.2 volts 0.5 amps, a.c. or d.c.
5. Range of operation: 8 ft. (used in conjunction with the Photo-Electric Detector Head type YL6010).

MULLARD EQUIPMENT LIMITED