

**CONTROL MODULE
SPEED RELAY
TYPE AUE - 400**



THE ROTECH CONTROL MODULE TYPE AUE - 400 IS INTENDED FOR USE WITH THE ROTECH RANGE OF SHAFT ENCODERS, ROLLER - ENCODERS AND PROXIMITY PROBES TO DETECT IF THE SPEED OF A ROTATING SHAFT OR DRIVE RISES OR FALLS BELOW A PRE-SET LEVEL.

THE FRONT MOUNTED DIAL ALLOWS EASY SETTING OF THE REQUIRED TRIP/ALARM SPEED DIRECTLY IN R.P.M.

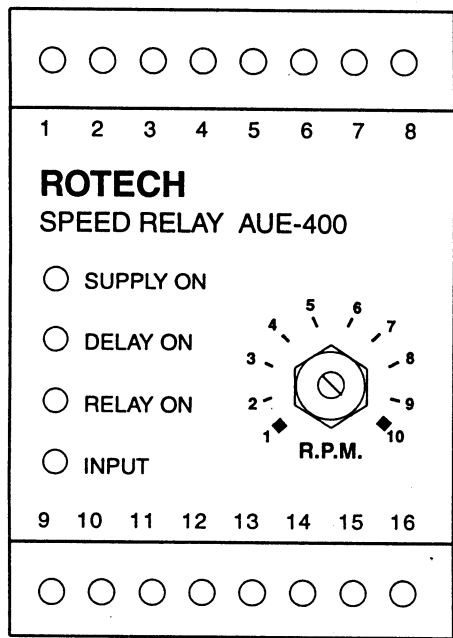
THREE SPEED RANGES ARE AVAILABLE ON EACH MODULE. STANDARD RANGES ARE 1-10 RPM, 1-100 RPM AND 1-1,000 RPM. THE REQUIRED RANGE BEING SELECTED BY LINK ON THE TERMINAL RAIL. OTHER MODULES ARE AVAILABLE WITH RANGES COVERING THE SPEEDS 0.01 RPM TO 20,000 RPM.

IN NORMAL OPERATION THE OUTPUT RELAY OF THE MODULE IS ENERGISED IF THE SPEED OF THE SHAFT IS ABOVE THE SET LEVEL AND DE-ENERGISED IF THE SPEED IS BELOW THE SET LEVEL.

AN INTERNAL 10 SECOND DELAY TIMER IS AVAILABLE TO ALLOW FOR THE RUN UP TIME OF THE DRIVE BEING MONITORED.

FRONT MOUNTED LED'S INDICATE POWER ON, DELAY ON, RELAY ENERGISED, AND INPUT SIGNAL.





55
HEIGHT = 130

75

1	MAINS POWER SUPPLY	110/120V 50/60Hz	220/240V 50/60 Hz.	BROWN ENCODER TYPE W ONLY
4	N.O.	OUTPUT RELAY RATED		
5	COMMON	250 VAC / 30 VDC ● 5a		
6	N.C.	LINK FOR RUN UP DELAY		BLUE
7	10 SEC DELAY	LINK FOR RUN UP DELAY		
8	A.C. INPUT	LINK TO TERMINAL 14 FOR SPEED RANGE REQUIRED - NO LINKS = 0 TO 10 RPM		ENCODERS TYPE - N E, E2 & E3
9	0-100 RPM	0-1000 RPM		
10	OVDC SIGNAL +12VDC	BLUE WIRE > 2	BLUE WIRE > 3	OPTO - ISOLATED REPEAT OUTPUT 1.2V / 30 mA
11	+	BROWN WIRE > 2	BROWN WIRE > 3	
12	-			
13				
14				
15				
16				

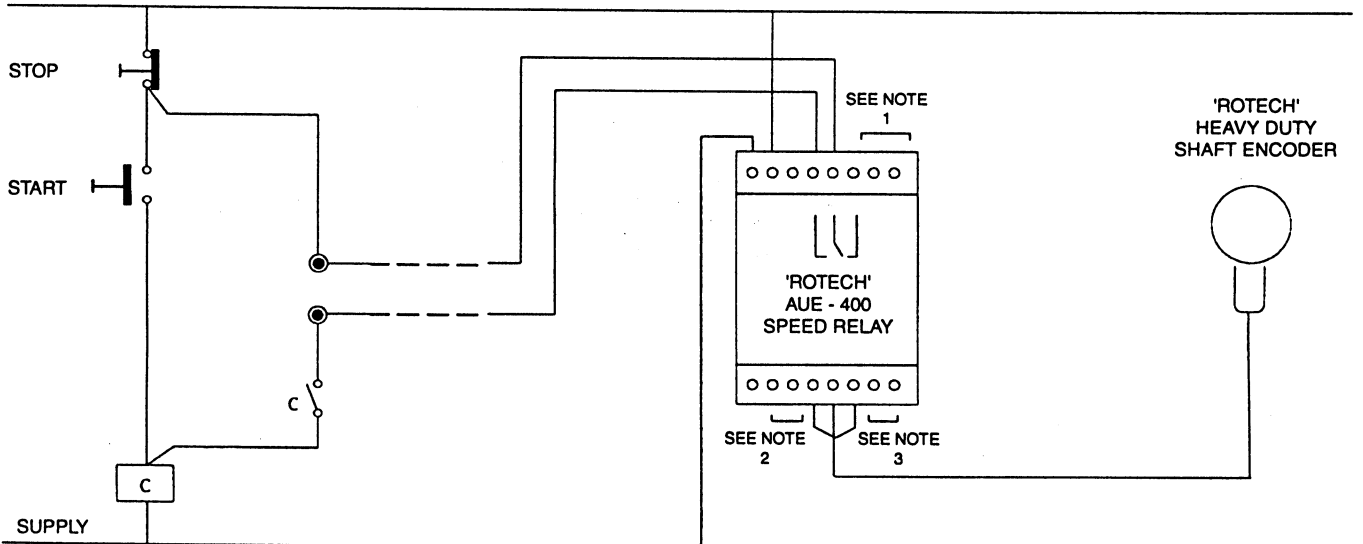
NOTE: TYPICAL PART No = AUE 416

AUE = SPEED RELAY
4 = 400 SERIES
16 = CALIBRATED FOR USE WITH 16 PULSE / REV ENCODER

NOTE: START DELAY - THE 10 SECOND DELAY OPERATE EVERYTIME AN EXTERNAL SWITCH OR CONTACT CONNECTS TERMINALS 7 & 8.

TYPICAL INSTALLATION

SUPPLY



MOTOR CONTROL CIRCUIT

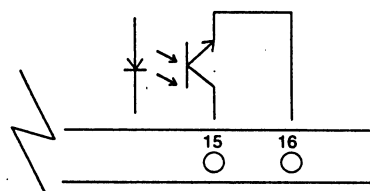
NOTE 1 - LINK FOR START-UP DELAY
NOTE 2 - LINK FOR REQUIRED SPEED RANGE
NOTE 3 - REPEAT OUTPUT

MOUNTING - 2 x M3 SCREWS OR DIN 35 x 7.5 mm RAIL

PROTECTION - IP 50

TEMPERATURE - -10°C TO +60°C

REPEAT OUTPUT



COMMISSIONING AND TESTING

IMPORTANT

COMMISSIONING AND TESTING MUST ONLY BE CARRIED OUT BY A QUALIFIED AND COMPETENT TECHNICIAN WHO IS FULLY FAMILIAR WITH THE PLANT TO WHICH THE "ROTECH" EQUIPMENT IS INSTALLED.

NOTES

- 1 THE AUE 400 MONITORS THE SPEED OF A DRIVE AND GIVES A SIGNAL IF THE SPEED OF THE DRIVE FALLS BELOW OR RISES ABOVE IT'S NORMAL RUNNING SPEED.
THE OUTPUT RELAY OF THE AUE 400 CAN BE CONNECTED TO GIVE A VARIETY OF CONTROL FUNCTIONS.
 - 1.1 THE OUTPUT RELAY CAN BE CONNECTED TO SOUND AN ALARM, BRING ON A WARNING LIGHT, ETC.
 - 1.2 IT CAN BE CONNECTED INTO THE MOTOR CONTROL CIRCUIT TO SWITCH OFF / TRIP OUT THE DRIVE MOTOR.
 - 1.3 IT CAN BE CONNECTED INTO THE MOTOR CONTROL CIRCUIT OF A CONVEYOR, MACHINE, ETC. PRECEEDING THE DRIVE TO WHICH IT IS FITTED, TO STOP THE DELIVERY OF MATERIAL, ETC. TO THE DRIVE THAT HAS SLOWED DOWN OR STOPPED.
 - 1.4 WITH THE USE OF ADDITIONAL CONTROL RELAYS AND / OR TIMERS THE ABOVE FUNCTIONS CAN BE COMBINED, PLUS MANY OTHERS CREATED.
- 2 USE OF THE 10 SECOND START UP DELAY IS OPTIONAL. THIS FEATURE IS NORMALLY ONLY REQUIRED WHEN THE AUE 400 IS CONNECTED AS IN 1.2 ABOVE AND THE TIME TAKEN TO REACH NORMAL RUNNING SPEED IS SEVERAL SECONDS OR LONGER.
- 3 THE REPEAT OUTPUT FACILITY ALLOWS THE INPUT PULSES FROM THE SHAFT ENCODER TO BE RE-TRANSMITTED TO OTHER EQUIPMENT. TYPICAL APPLICATIONS ARE SPEED INDICATION, SECONDARY INPUT TO PLC, COMPUTER, ETC, ANALOGUE CONVERSION 0 TO 10VDC / 4 TO 20mA, ETC. OR CONNECTING TWO OR MORE AUE 400 MODULES TO A SINGLE ENCODER TO OBTAIN MUTIPLE ALARM / TRIP LEVELS.

SETTING UP

- 1 CHECK THAT ALL CONNECTIONS ARE CORRECT AND THAT LINKS ARE FITTED TO SELECT THE CORRECT SPEED RANGE.
- 2 TURN THE POTENTIOMETER ON THE AUE 400 SPEED RELAY FULLY ANTI-CLOCKWISE.
- 3 START THE DRIVE AND IF THE RUN-UP DELAY FACILITY IS BEING USED, WAIT 10 SECONDS UNTIL THE "DELAY ON" INDICATOR IS EXTINGUISHED.
- 4 "SUPPLY ON" AND "RELAY ON" INDICATORS SHOULD BE ILLUMINATED AND "INPUT" INDICATOR SHOULD BE PULSING OR PARTLY ILLUMINATED.
- 5 TURN THE POTENTIOMETER SLOWLY CLOCKWISE UNTIL THE "RELAY ON" INDICATOR EXTINGUISHES AND NOTE SETTING.
- 6 TURN POTENTIOMETER ANTI-CLOCKWISE UNTIL 'RELAY ON' INDICATOR ILLUMINATES, THEN TURN CLOCKWISE AND SET TO APPROXIMATELY 90% OF THE ABOVE SETTING.
- 7 THE AUE 400 SPEED RELAY IS NOW SET TO DE-ENERGISE IF THE SPEED OF THE DRIVE DECREASES BELOW THAT SET ON THE POTENTIOMETER.
- 8 IF THE DRIVE IS SUBJECT TO TEMPORARY SHORT PERIOD DECREASES IN SPEED THAT YOU WISH TO IGNORE, THE POTENTIOMETER CAN BE SET TO 80%, 70%, ETC. OF NORMAL RUNNING SPEED, THE AUE 400 SPEED RELAY WILL THEN ONLY DE-ENERGISE IF THE SPEED OF THE DRIVE FALLS BELOW THIS SETTING.
- 9 TEST BY STARTING AND STOPPING DRIVE. WHEN RUNNING NORMALLY "RELAY ON" INDICATOR WILL BE ILLUMINATED. OBSERVE THAT WHEN THE STOP BUTTON IS PRESSED, AS SOON AS THE DRIVE SPEED DECREASES BELOW THAT SET ON THE POTENTIOMETER, THE "RELAY ON" INDICATOR EXTINGUISHES.