



Order Number

Serial Number

PRODUCT / TEST MANUAL

3A202K8

PILOT RECEIVE RELAY

Issue Level	Date	Summary of changes
A	21/03/2006	Initial issue.

Due to RMS continuous product improvement policy this information is subject to change without notice.

Author	Checked & Registered	.pdf file created	Released
ERL	DG	DG	



1. DESCRIPTION OF RELAY

The 3A202 is designed to be used as a copper wire pilot send & receive relay. The receive relay has a high immunity to induced AC which makes it ideal for this application. The special design includes a copper sleeve, which is wound on the core of the relay prior to the winding and also includes a bypass capacitor across the coil to further enhance the AC rejection feature. It will give positive operation on pilots of 2000 ohms loop resistance and is immune to AC voltages up to 300. The relay is fitted with a hand reset operation indicator. The send relay is a standard 6R relay with heavy-duty contacts.

2. SPECIFICATION

DC Auxiliary Supply	110 Volts DC nominal
Auxiliary Supply Tolerance	85% to 110% of nominal
Supply Burden	Approximately 2 Watts
AC withstand (Receive only)	Immune to AC voltages to 300 volts
Operate time	Approximately 60 milliseconds
Output Contacts	3 make 1 break per element
Operation indicator	Hand reset mechanical flag

Output Relay Contact Ratings

Make and Carry Continuously

3000 VA AC resistive with maximums of 660 Volt and 12 Amp
 3000 VA DC resistive with maximums of 660 Volt and 12 Amp

Make and Carry of 0.5 Second

7500 VA AC resistive with maximums of 660 Volt and 30 Amp
 7500 VA DC resistive with maximums of 660 Volt and 30 amp

AC Break Capacity

3000 VA AC resistive with maximums of 660 Volt and 12 Amp

DC Break Capacity (Amps)

Voltage			24V	48V	125 V	250V
Resistive rating		a b	12 12	1.5 12	0.5 10	0.25 5
L/R=40 mS	Maximum break	a b	12 30	1 15	0.4 5.5	0.2 3.5
	1K operations (N3 Rating)	b	12	12	5	2.5

a = Without magnetic blowouts b = With magnetic blowouts

* As tested by Powernet Yarraville laboratories in Victoria.

Enclosure

4M28

Insulation Withstand
 2KV

In accordance with AS2481-1981 (Clause 5-4),
 50Hz between input and frame, output and frame and between output and input. In accordance with AS2481-1981 (Clause 5-4), 1.2/50 5KV impulse between each terminal and earth, between circuits not normally connected together and between terminals of the same circuit.

3. TEST EQUIPMENT REQUIRED

DC Auxiliary Supply
AC Variable Voltage & Frequency Source
HV Test Equipment

4. ASSOCIATED DRAWINGS

Wiring Diagram 172-202-108

5. HIGH VOLTAGE TESTING

Apply three 5KV $1/50$ uS pulses of each polarity between the terminal groups 1 & 2 in Table 1.

TABLE 1	
<u>GROUP 1</u>	<u>GROUP 2</u>
11,12,27,28	1,3,2,4,5,7,6,8,17,19,18,20,21,23,22,24
27,28,1,3,2,4,5,7,6,8,	11,12,17,19,18,20,21,23,22,24
All terminals	frame

6. TEST PROCEDURE

Receive relay

- a) Apply 300 volts AC to terminals 27 & 28, relay should not operate.
- b) Remove the AC voltage.
- c) Apply nominal voltage in series with a 2700-ohm resistor to 27 & 28, relay should now pick up. Adjust armature travel or spring tension to achieve pick up.
- d) Check operation of relay at specified minimum and maximum DC auxiliary.
Minimum 85% = 93.5VDC Verify
Maximum 110%= 121VDC Verify
- e) Check flag operates at minimum auxiliary voltage.

Send relay

- a) Apply 85% of nominal voltage to terminals 11 & 12
- b) Relay should operate, adjust relay to obtain pickup value
- c) Check operation of mechanical flag



7. TEST PROCEDURE (Cont)

- a) Check that reset buttons reset the flags.
- b) Check that the relay is electrically sound and mechanically robust as per standard Inspection and Test Schedule 903-000-026.

PASS

TESTED BY: _____

DATE: _____

8. CONNECTION DIAGRAM

CASE EARTH

