



# O/E/N 74

## AUTOMOTIVE POWER RELAY

### FEATURES

- High performance
- 6.3mm Flat Terminals
- Current rating up to 40A
- Suitable Couplers available
- Optional Sealing

### APPLICATION

- Horn Control
- Starter Motors
- Defogger
- Radiator Fan
- A/C Controls
- Security Systems

### TECHNICAL DATA FOR CONTACT SIDE :

| Model                                           | :    | 74                                               | 74-SC                             |
|-------------------------------------------------|------|--------------------------------------------------|-----------------------------------|
| Areas of Application                            | :    | RESISTIVE / INDUCTIVE/HEAD LAMP/CAPACITIVE LOADS |                                   |
| Contact Configuration                           | :    | 1A/1C                                            | 1A/1C                             |
| Contact Material                                | :    | Silver Nickel                                    | Silver Nickel / Silver Tin Oxide* |
| Contact Rating at 23°C - 12VDC (Res.)           | NO : | 30                                               | 40                                |
|                                                 | NC : | 20                                               | 30                                |
| Electrical Life Operations Min.                 | :    | 2 x 10 <sup>5</sup>                              | 2 x 10 <sup>5</sup>               |
| Mechanical Life Operations Min.                 | :    | 1 x 10 <sup>6</sup>                              | 1 x 10 <sup>6</sup>               |
| Contact Voltage Drop at 10 A (Min)              | :    | 50mV                                             | 50mV                              |
| Maximum Switching Current @ 12.8 VDC For 3 Sec. | :    | 120A                                             | 150A                              |
| *Under introduction                             |      |                                                  |                                   |

### GENERAL DATA FOR COIL SIDE

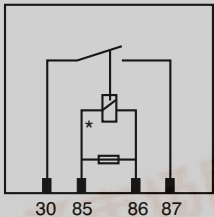
|                    |   |                  |
|--------------------|---|------------------|
| Nominal Coil Power | : | 1.6W (Approx)    |
| Operating Power    | : | 1.8W (Approx)    |
| Operate Time**     | : | 15 milli Seconds |
| Release Time**     | : | 15 milli Seconds |

\*\* At nominal voltage without coil suppression (excluding bounce)

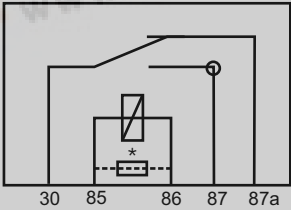
### OPERATING CONDITIONS

|                                                                   |   |                                           |
|-------------------------------------------------------------------|---|-------------------------------------------|
| Ambient Temperature                                               | : | -30°C to +85°C                            |
| Maximum Temperature                                               | : | 155°C                                     |
| Dielectric Strength                                               | : | 500VRMS                                   |
| Insulation Resistance                                             | : | 100 Meg. Ohms Min. At 500 VDC, 25°C RH 50 |
| Vibration Resistance (without change in the switching state>10μS) | : | 10-2000Hz 4.4g                            |
| Shock Resistance (without change in the switching state>10μS)     | : | 30g, 8mS                                  |

### CIRCUIT DIAGRAM

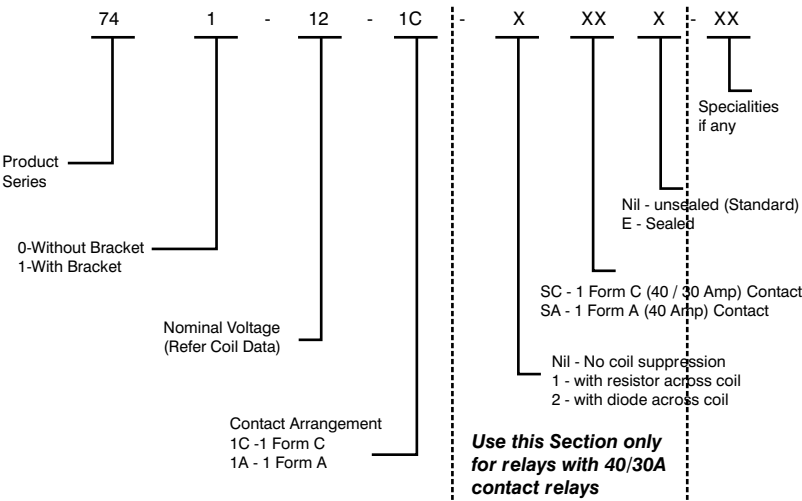


1 Form A



\* parallel resistor or diode optional

HOW TO ORDER



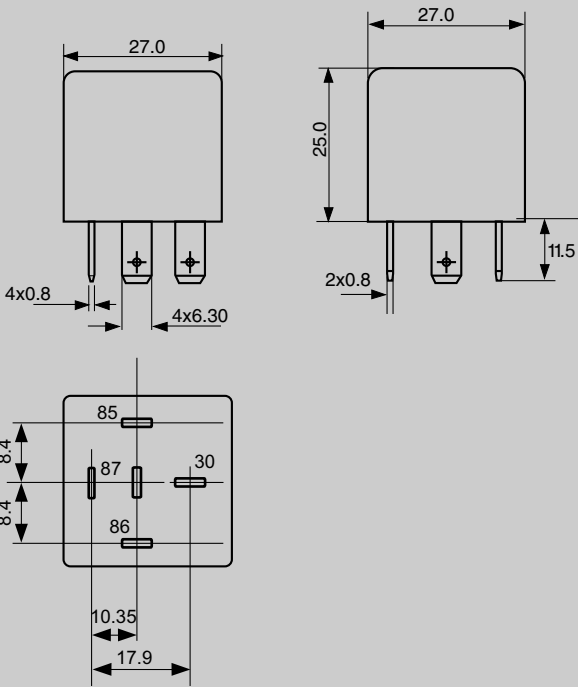
COIL DATA

| Nominal Voltage VDC | ***Pick-up Voltage VDC (Max) | Drop-out Voltage VDC (Min) | Coil Resistance Ohms ( $\pm 10\%$ ) |
|---------------------|------------------------------|----------------------------|-------------------------------------|
| 12                  | 8                            | 1.2                        | 85                                  |
| 24                  | 17                           | 2.4                        | 305                                 |

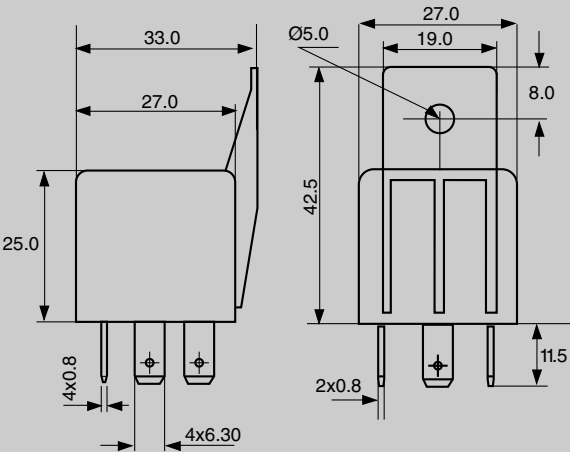
\*\*\*Lower pick-up Voltages available on request

DIMENSIONS

Relay without Bracket



Relay with Bracket



MECHANICAL DATA

|                   |         |
|-------------------|---------|
| COVER RETENTION   |         |
| Pull              | : 20KgF |
| Push              | : 20KgF |
| TERMINAL STRENGTH |         |
| Pull              | : 10KgF |
| Push              | : 10KgF |

AVAILABLE ON REQUEST

- High temperature winding wire
- Special Contact arrangements
- Special coil resistance & pick-up
- Resistor / Diode across coil
- For other custom solutions consult factory

| DATA ON VARIOUS TESTS CONDUCTED FOR OPERATING CONDITIONS       |                                                                                                                                                                                                                                  |                                                                                 |
|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| TEST                                                           | TEST CONDITION                                                                                                                                                                                                                   | RESULT                                                                          |
| Continuous Energisation test at Extreme temperature Conditions | Relay kept at 100°C<br>Coil Voltage : 14 VDC<br>Load given : 25 A @ 12 VDC<br>Duration : 5 Sec. On, 5 Sec. OFF<br>No. of operation : 50000<br>The above test repeated at - 30°C for 50000 operations                             | Relays successfully completed 100000 operations at given load                   |
| Thermal cycling                                                | Relay subjected to :-<br>-30°C to + 100°C in 2 Hrs. with coil ON<br>+ 100°C for 2 Hrs. with coil ON<br>+ 100°C to - 30°C in 2 Hrs. with 1 Hrs. Coil ON & 1 Hrs. Coil OFF<br>-30°C for two Hrs. with Coil ON<br>No. of Cycles : 3 | All operating parameters within the specifications after test                   |
| Shock Voltage                                                  | Relay is subjected to :-<br>Max. Voltage : 100VDC<br>Shock Wave : Exponential Damping vibration<br>Time : 500 micro Sec.<br>Period : 30 Sec.<br>Test Time : 10 Hrs.                                                              | After the test, all operating parameters of the relay are within specification. |
| Dropping Impact                                                | Relays dropped from a height of 1 Meter to a concrete floor                                                                                                                                                                      | No change in operating parameters of the relay.                                 |
| Jump Start                                                     | 24 VDC for 1 minute conducting nominal current at 23°C                                                                                                                                                                           | Withstood successfully                                                          |
| Corrosion Resistance                                           | 5% Sodium Chloride solution applied to relay for 48 Hrs.                                                                                                                                                                         | No damage to relay parts                                                        |
| Water Resistance test                                          | Horizontal Plane:23rev. / Min.<br>Water Pressure:0.03 Mpa<br>Test time:10 Min                                                                                                                                                    | No water ingress inside the relay                                               |

\*Typical values for relays with 12 VDC coil. For higher severity please consult factory

## OPTIONAL SPECIAL CIRCUITRY

