

# 97204 – AC 2 Function & IP Transmitter Narrow Band

## 97 Series – AC Relay System (No Master)

### SYSTEM PART NUMBER

97204 2 Function Receiver + 2 Function IP Transmitter Narrow Band

### REPLACEMENT TRANSMITTER

93204TX 2 Function IP Transmitter Narrow Band

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1 x Receiver  
1 x IP Transmitter  
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### IP TRANSMITTER SPECIFICATION

#### SWITCH

Type Tactile Dome on PCB Keypad

#### BATTERY

Type 4 x AAA Alkaline Manganese in holder (6volts)

#### CURRENT DRAW

Quiescent 15 micro amps  
Operating 20 milliamps

#### PROTECTION

Reverse polarity Protected  
IP Rating 55  
Registration codes Over 16 million

#### PERFORMANCE

Temp Range -10° C to + 40° C (13° F to + 104° F)  
Range Nominal as supplied 300 metres (1000 ft.) from the Receiver, when driving a momentary output without signal drop out  
Transmitted power 1 mW Typical

#### COMPLIANCE

|             |                                  |  |
|-------------|----------------------------------|--|
| EMC         | Exceeds ETSI 300 220.            | Compliant E11 10R-037601                       |
| Modulation  | FM                               |  |
| Frequencies | 418.00 MHz F1D<br>433.92 MHz F1D | USA (optional UK)<br>World wide (optional USA) |

## RECEIVER SPECIFICATION

### SWITCH TYPE

|                        |  |
|------------------------|--|
| Output Switching       | HF118F Miniature High Power Relay                                    |
| Max. Switching Current | 10 amps at 250VAC  |
| Max. Switching Power   | 2500VA   |
| Max. Switching Volts   | 250 VAC Nominal  |
| Min. Switching Volts   | 48 VAC (below this the Safety Circuits will switch off the Receiver) |

### SUPPLY VOLTS

|         |            |
|---------|------------|
| Nominal | 90/264 VAC |
|---------|------------|

### AMPS

|                   |                            |
|-------------------|----------------------------|
| Quiescent Current | 25 mA on Standby (Not SET) |
|-------------------|----------------------------|

### AERIAL

|                  |          |   |
|------------------|----------|---|
| Internal Antenna | Yes      | Supplied and fitted   |
| External Antenna | Optional | Receiver <u>must</u> be ordered with SMA connector (see Accessories Part 9010). |

### OUTPUTS

|                  |   |   |
|------------------|---|---|
| Master Functions | 1 | Can be Parallel or Continuous. Not all models – see Build Specification Table |
|                  | 4 |   |

### CONFIGURATION

|                   |          |   |
|-------------------|----------|---|
| RS232 programming | Optional | Receiver <u>must</u> be ordered with RS232 connector (see Accessories Part 9011) for programming to user requirements; interlocks, push/push latch, parallel master inhibit, timeout, channel timeout delay, master output delay etc. |
|-------------------|----------|---|

### PERFORMANCE

|                      |     |  |
|----------------------|-----|--|
| Simultaneous Outputs | Yes | With horizontal interlocks (Interlocks are programmable – see CONFIGURATION above) |
| Instant TX Response  | Yes | No perceivable delay between TX operation and RX action                            |

### DIAGNOSTICS

|       |     |  |
|-------|-----|--|
| LED's | Yes | Confirm 5 Volts, SET, Fault and all Outputs. |
|-------|-----|--|

### PROTECTION

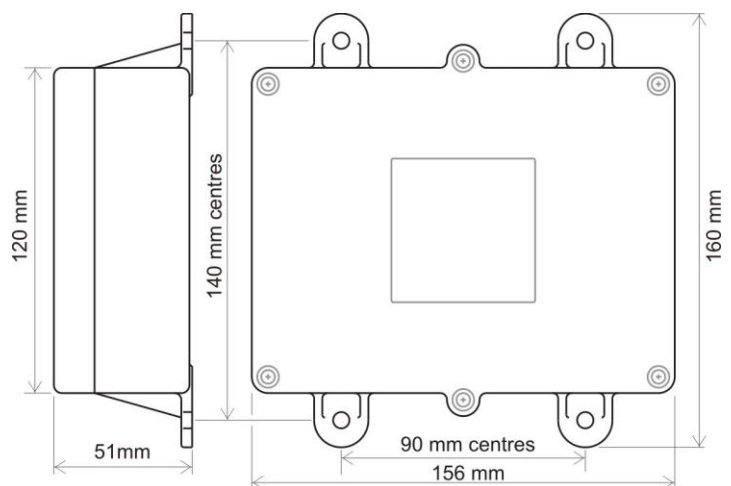
|                    |          |  |
|--------------------|----------|--|
| ESR Safety         | Yes      | See ESR Safety document.                                       |
| Back EMF           | Yes      | Diode protected on all outputs                                 |
| Registration codes | Yes      | Over 16 million  |
| STOP Connection    | Optional | External Emergency STOP connector (see Accessories Part 9011). |

### WIRING

|             |     |   |
|-------------|-----|---|
| Wiring Loom | No  |   |
| Cable Gland | Yes | Supplied and fitted   |
| Connections | Yes | Screw terminal into plug and socket on PCB, for easy “swap out” |

### ENCLOSURE

|           |   |
|-----------|---|
| Weight    | 0.3 lbs (335gms)  |
| Lid       | Black PVC   |
| Base      | Black PVC   |
| Breather  | Gortex fitted in base                                     |
| Mounting  | 4 external lugs   |
| Fixings   | 5mm (3/16”) not supplied                                  |
| IP Rating | Performs to IP67 standard<br>(0.5 metre water for 1 hour) |



### ACCESSORIES

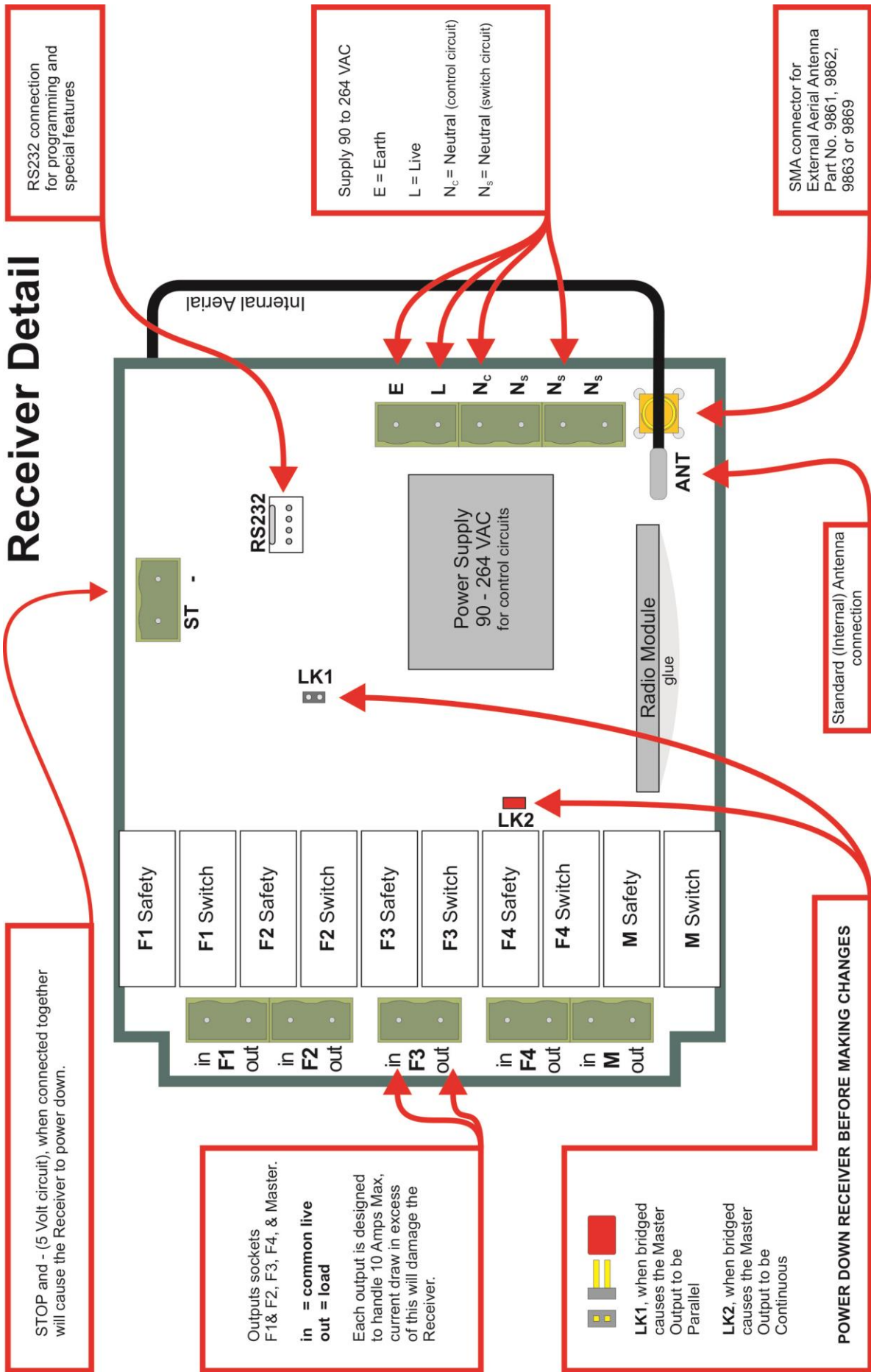
|                           |   |
|---------------------------|---|
| 9861, 9862, 9863 and 9869 | External Antenna with cable.              |
| 9010                      | SMA Connector, for external aerial        |
| 9011                      | ST, S+ & S- connector and RS232 connector |

| <b>97 Series</b>                                   |         |                                | <b>97000</b> | <b>97002</b> | <b>97004</b> | <b>97200</b> | <b>97202</b> | <b>97204</b> |
|--|---------|--------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| BUILD SPECIFICATION TABLE FOR MODELS IN THIS RANGE |         |                                |              |              |              |              |              |              |
| Ident  | Legend  | Connection                     |              |              |              |              |              |              |
|  | E       | Earth                          | S            | S            | S            | S            | S            | S            |
|  | L       | Live                           | S            | S            | S            | S            | S            | S            |
|  | N       | Neutral                        | S            | S            | S            | S            | S            | S            |
|  | F1 & F2 | Outputs to F1 & F2 (IN & OUT)  | S            | S            | S            | S            | S            | S            |
|  | F3 & F4 | Outputs to F3 & F4 (IN & OUT)  |              |              | S            |              |              | S            |
|  | M       | Master Output                  |              | S            | S            |              | S            | S            |
|  | S-      | Stop Circuit (5 Volts DC)      |              | S            | S            | S            | S            | S            |
|  | ANT     | Internal Antenna               | S            | S            | S            | S            | S            | S            |
|  | SMA     | Connector for External Antenna |              | S            | S            |              | S            | S            |
|  | LK1     | Master Parallel                |              | C            | C            |              | C            | C            |
|  | LK2     | Master Continuous              |              | C            | C            |              | C            | C            |
|  | RS232   | RS232                          |              | S            | S            |              | S            | S            |

S = Standard. M = Standard but Master only connected. C = Customer configured (see "Factory Settings").

|                  |   |
|------------------|---|
| E                | Earth   |
| -                | Live 90-264 VAC   |
| F1, F2, F3, F4   | Outputs F1 to F4  |
| M                | Master Output   |
| ST               | STOP - grounding shuts down the Receiver                                  |
| ANT              | Blade Connector for Internal Antenna                                      |
| SMA              | Aerial Connection for External Antenna (Internal Antenna must be removed) |
| LK1              | Jumper fitted to this link for Continuous Master                          |
| LK2              | Jumper fitted to this link for Parallel Master                            |
| Factory Settings | 418MHz configured Parallel, 433.92MHz configured Continuous               |
| RS232            | RS232 for interface with other RS232 modules and special programming      |

# Receiver Detail



RS232 connection for programming and special features

Supply 90 to 264 VAC  
 E = Earth  
 L = Live  
 N<sub>c</sub> = Neutral (control circuit)  
 N<sub>s</sub> = Neutral (switch circuit)

SMA connector for External Aerial Antenna  
 Part No. 9861, 9862, 9863 or 9869

STOP and - (5 Volt circuit), when connected together will cause the Receiver to power down.

Outputs sockets F1 & F2, F3, F4, & Master.  
**in = common live**  
**out = load**  
 Each output is designed to handle 10 Amps Max, current draw in excess of this will damage the Receiver.

**LK1**, when bridged causes the Master Output to be Parallel  
**LK2**, when bridged causes the Master Output to be Continuous  
**POWER DOWN RECEIVER BEFORE MAKING CHANGES**