

# 20 Function with IP Transmitter

## 92 Series – FET System

### SYSTEM PART NUMBER

**92220** 20 Function Receiver with Master + 16 Function IP Transmitter

### REPLACEMENT TRANSMITTER

**92220TX** 20 Function IP Transmitter

### CONTENTS

1 x Receiver  
1 x IP Transmitter  
1 x Lanyard  
1 x Instructions



### IP TRANSMITTER SPECIFICATION

**SWITCH** - Type Tactile Dome on PCB Keypad

**BATTERY** - Type 4 x AAA Alkaline Manganese in holder (6 Volts)

#### INDICATOR

Type 1 x Red LED  
Off Transmitter OFF (The STOP Button has been pressed and released)  
Slow flash Transmitter ON and ready for use (The SET Button has been pressed and released)  
On Transmitting (A STOP, SET or Function Button is being pressed)  
Fast flash Transmitting – Indication that the battery will need replacing soon

#### CURRENT DRAW

Quiescent 15 micro amps  
Operating 25 milliamps

#### PROTECTION

Reverse polarity Protected  
IP Rating 67  
Registration codes Over 16 million

#### PERFORMANCE

Temp Range -10° C to + 40° C (13° F to + 104° F)  
Range Nominal as supplied 60 metres (200 ft) from the Receiver, when driving a momentary output without signal drop out  
Transmitted power 1mW Typical

#### COMPLIANCE

EMC 2004/104/EEC Exceeds ETSI 300 220 Compliant E11 10R-037601  
Modulation FM  
Frequencies 418.00 MHz F1D USA (optional UK)  
433.92 MHz F1D World wide (optional USA)

## RECEIVER SPECIFICATION

### SWITCH TYPE

Output Switching                      MOS Field Effect Transistor (P Channel Power MOSFET)

### SUPPLY VOLTS

Nominal                                    12/24 Volts DC  
 Absolute Maximum                    40 Volts DC  
 Minimum                                 8 Volts DC  
 Output Switch Supply                 Internal 12/24 Volts

### AMPS

FET Rating                                15 Amps  
 System Rating                            15 Amps  
 Quiescent Current                      25 mA on Standby (Not SET)  
 Overload Protection                  15 Amps (Auto Shutdown)

### AERIAL

Internal Antenna                         Yes        Supplied and fitted  
 External Antenna                        Optional   See Accessories.

### OUTPUTS

Master                                      1            Can be Parallel or Continuous  
 Function                                  20  
 Master (Secondary)                      1            Continuous

### CONFIGURATION

RS232 Programming to users' requirements                      Yes        Not all models, see Build Specification Table. For programming interlocks, push/push latch, parallel master inhibit, timeout, channel timeout delay, master on delay, radio button de-latching and output allocation.

### 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

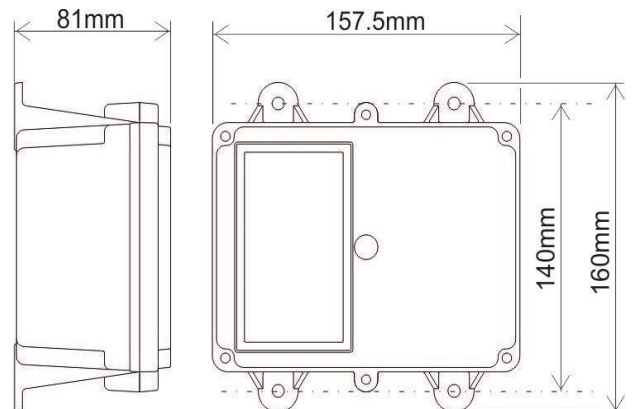
ESR Safety                                 Yes        See ESR Safety document.  
 Back EMF                                 Yes        Diode protected on all outputs  
 Registration codes                      Over 16 million  
 STOP Connection                        Yes        Internal Emergency Stop Connection

### WIRING

Wiring Loom                                No        Can be supplied as an option  
 Cable Gland                                Yes        Supplied – fitted by customer  
 Connections                                Screw terminal into plug and socket on PCB, for easy "swap out"

### ENCLOSURE

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



92 Series			92 2 10	92 2 16	92 2 20
BUILD SPECIFICATION TABLE FOR MODELS IN THIS RANGE					
Ident	Legend	Connection			
	+ -	Positive, Negative,	S	S	S
	M, F1, F2, F3	Master F1, F2 and F3	S	S	S
	F4, F5, F6, F7	F4, F5, F6 & F7	S	S	S
	F8, F9 & F10	F8, F9 & F10	S	S	S
	F11, F12, F13, F14	F11, F12, F13 & F14		S	S
	F15, F16	F15 & F16		S	S
	F17, F18, F19, F20	F17, F18, F19 and F20			S
	S+, S-	Safety Solenoid S+ and S-	S	S	S
	STOP, 0Volts	STOP connections	S	S	S
	ANT	Internal Antenna	S	S	S
		SMA (external antenna)	S	S	S
LK1	LK1	Master - Parallel	C	C	C
LK2	LK2	Master - Continuous	C	C	C
	RS232	RS232	S	S	S
		9863 Antenna with 3 metre cable	S	S	S

S = Standard. C = Customer configured (see "Factory Settings").

+	Positive 12/24 Volt supply
-	Negative 0 Volts
F1 to F20	Outputs to F1 through F20
M	Master Output
STOP -	STOP, when grounded shuts down the Receiver
S+ S-	Master Secondary for Safety solenoid connections etc.
ANT	Blade connector for internal antenna
SMA	Aerial connection for optional external antenna (internal antenna must be removed)
LK1	Master Selection by Jumper (BA = Continuous & AC = Parallel)
LK2	Connected when using Parallel Master, connects safety circuits
Factory Settings	418MHz configured Parallel, 433.92MHz configured Continuous
RS232	RS232 for Wired Remote and interface to access special programmes

## RECEIVER PCB – Component Side

This is viewable through the smoke lid of the Receiver.

LED's are visible for confirmation that the system is operating correctly.

These are: -

+5V	Power Supply OK
SET	Receiver operational
Fault	Flashes for 20 seconds At "power up" Tx coding window open
Fault	ON = Current overload
LED's F1 to F20 and M	ON when there is an output