

# 16 Function with IP Transmitter

## 92 Series – FET System

### SYSTEM PART NUMBER

**92216** 16 Function Receiver with Master + 16 Function IP Transmitter

### REPLACEMENT TRANSMITTER

**92216TX** 16 Function IP Transmitter

### CONTENTS

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



### IP TRANSMITTER SPECIFICATION

<b>SWITCH</b> - Type	Tactile Dome on PCB Keypad	
<b>BATTERY</b> - Type	4 x AAA Alkaline Manganese in holder (6 Volts)	
<b>INDICATOR</b>		
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	
<b>CURRENT DRAW</b>		
Quiescent	15 micro amps	
Operating	25 milliamps	
<b>PROTECTION</b>		
Reverse polarity	Protected	
IP Rating	67	
Registration codes	Over 16 million	
<b>PERFORMANCE</b>		
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	
<b>COMPLIANCE</b>		
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                                  16  
 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

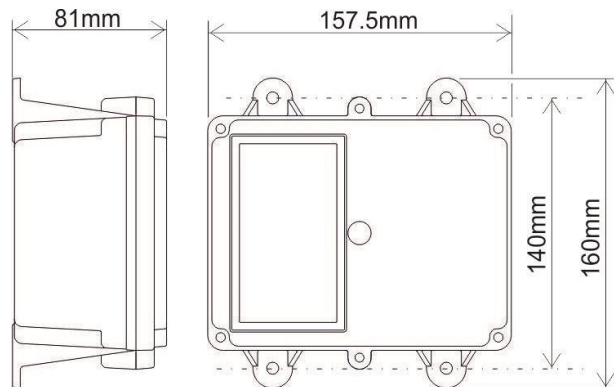
ESR Safety                                 Yes      See ESR Safety document.  
 Back EMF                                 Yes      Diode protected on all outputs  
 Registration codes                      Over 16 million  
 STOP Connection                        Yes      Internal Emergency Stop Connection

### 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)



<b>92 Series</b>			<b>92 2 10</b>	<b>92 2 16</b>	<b>92 2 20</b>
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