30 Function and IP Transmitter with Shift

SYSTEM PART NUMBER

92330   1 x 20 Function Receiver & 1 x 10 Function Receiver
1 x 16 Function IP Transmitter with Shift Buttons.
(30 Function in Shift Mode – 2 functions not used)

REPLACEMENT TRANSMITTER

92316TX   16 Function IP Transmitter with Shift Buttons.
(30 Function in Shift Mode – 2 functions not used)

TRANSMITTER SPECIFICATION

SWITCH
Type   Tactile Dome on PCB Keypad

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

INDICATOR   2 x Red LED

Transmitter Off	The STOP Button has been pressed and released
Transmitter Slow Flash	ON and ready for use. The SET Button has been pressed and released
Transmitter On	Transmitting. A STOP, SET or FUNCTION Button is being pressed
Transmitter Fast Flash	An Indication that the battery will need replacing soon
Enclosure Slow Flash	ON and ready for use with Receiver 2. The SET button has been pressed and released

CURRENT DRAW
Quiescent   20 micro amps
Operating   25 milliamps

PROTECTION
Reverse polarity   Protected
IP Rating   65
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
Modulation	FM	
Frequencies	418 MHz F1D	USA
	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	30	20+10

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 – 20 Function shown

Weight	Approx. 0.5 lbs (335gms)
Lid	Clear PVC - to view LEDs
Base	Black PVC
Breather	"Gortex", fitted in the base
Mounting	4 external lugs
Fixings	5mm (3/16") not supplied
IP Rating	IP66

ENCLOSURE – 10 Function
This is the same enclosure as the 20 Function
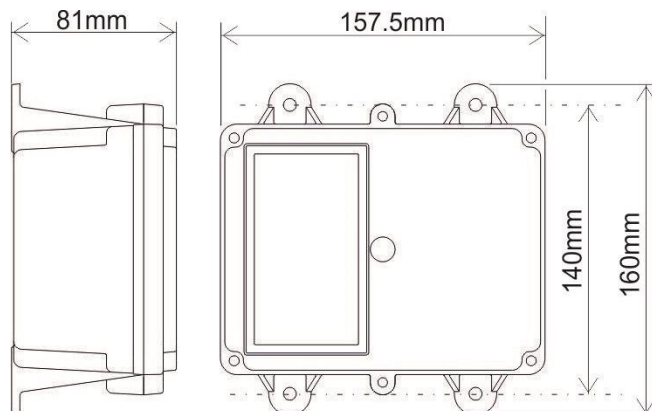
92 Series			92330
BUILD SPECIFICATION TABLE FOR MODELS IN THIS RANGE			
Ident	Legend	Connection	
	+ -	Positive, Negative,	S
1	M, F1, F2, F3	Master F1, F2 and F3	S
1	F4, F5, F6, F7, F8, F9	F4, F5, F6, F7, F8, F9	S
1	F10, F11, F12, F13, F14	F10, F11, F12, F13, F14	S
1	F16, F17, F18, F19, F20	F16, F17, F18, F19, F20	S
2	F1, F2, F3, F4, F5, F6, F7, F8, F9, F10	F1 & F2, F3, F4, F5, F6, F7, F8, F9, F10	S
	S+, S-	Safety Solenoid S+ and S-	S
	STOP, 0Volts	STOP connections	S
	ANT	Internal Antenna	S
		SMA (external antenna)	S
LK1	LK1	Master - Parallel	C
LK2	LK2	Master - Continuous	C
	RS232	RS232	S
		9863 Antenna with 3 metre cable	2
		Number of Receivers	2
		Number of Transmitters	1

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

+		Positive	12/24 Volt supply
-		Negative	0 Volts
F1 to F16		Outputs to F1 through F16	
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
LK3   RS232 for interface to access special programmes

EXPLANATION OF "SHIFT" OPERATIONS - as illustrated with a 20 Function Transmitter.

These "SHIFT" operations can be applied to ALL Transmitters. For example, a 10 function Transmitter will give 20 functions – ideal if you do not want the larger 20 function Transmitter.

To operate 2 x 20 function Receivers, giving 40 functions

This is a standard 20 function Transmitter, modified so that it transmits 20 functions in two different modes.

The Green SET Button is the SHIFT button. Both 20 function Receivers can therefore be operated by one Transmitter.

Press the Green SET Button to turn both Receivers on - it will start in mode One; press it again for mode Two; press it again for mode One, and so on.

Press the Red Stop button to turn both modes off.

Receiver One (functions 1 to 20) is operated with the SHIFT buttons in mode One, indicated when the Keypad LED is flashing during operation.

Receiver Two (functions 21 to 40) is operated with the SHIFT buttons in mode Two, indicated when the Enclosure LED is flashing during operation.

To register a Transmitter to its TWO Receivers.
Switch OFF or DISCONNECT the power to the Receivers.

Switch ON or Reconnect the power to Receiver ONE, this opens a 1**0 SECOND** registration window in its processor.

Immediately **PRESS** and **HOLD** the green **SET** button while the registration window is open until the **SET** LED lights (5 seconds), the **SHIFT** function must **NOT** be active.

Receiver TWO, repeat the process but this time **PRESS** and **HOLD** the **SHIFT** button, and **PRESS** and **HOLD** the **SET** button until its **SET** LED lights.

You have now coded the Transmitter to both receivers.