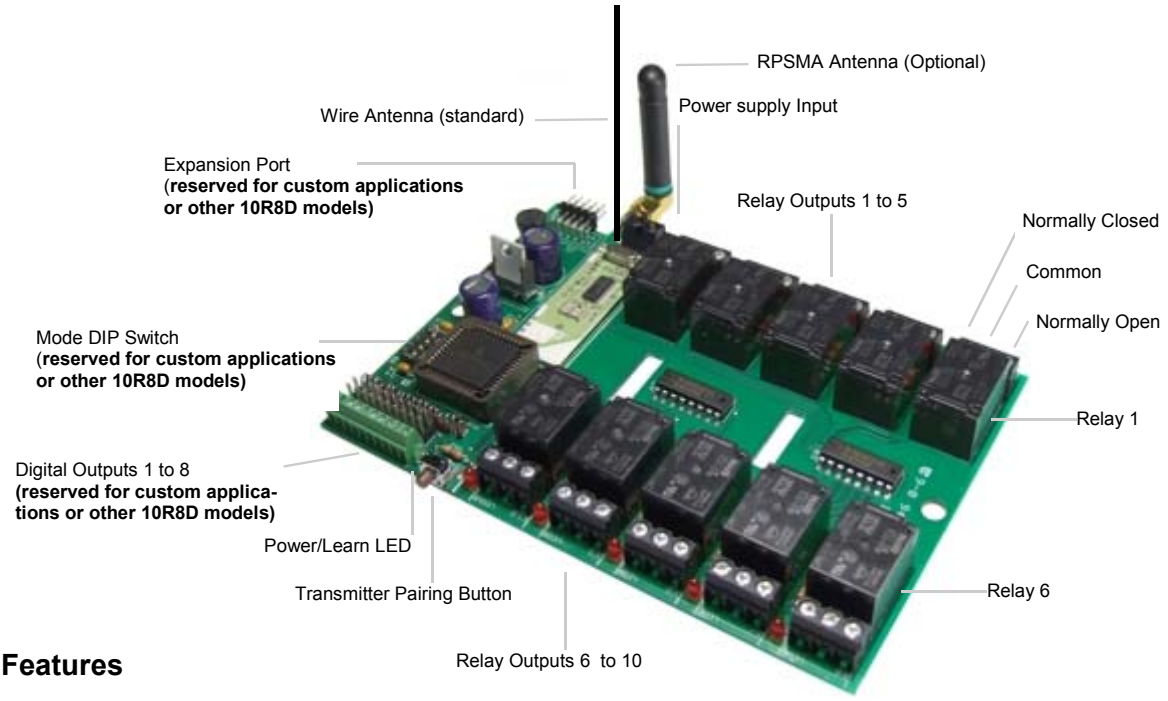
10R8D-SERVAC 10 Relay Remote Control Receiver

SERVAC refers to **SE**RVER **AC**CESSORY modules designed for compatibility with the 32IO SERVER internet remote control and monitoring device. See 32IO SERVER documentation for further details.

The 10R8D-SERVAC wireless receiver and the 18CHTX-SERVAC wireless transmitter provide an RF extension to the 32IO SERVER's output port. The transmitter connects to an OUTPUT configured port on the 32IO SERVER and the receiver is located at the desired remote location up to 500ft away.
This configuration enables controlling of users devices that are located a remote locations from the 32IO SERVER.



Features

- Companion to the 18CHTX-SERVAC radio transmitter module
- Provides Wireless extension for the 32IO SERVER
- FM operation for increased signal integrity
- Available on 433.92MHz or 868.35MHz bands
- 10 Form C Relay Outputs (10A/125VAC)
- Normally open, normally closed and common terminals for each relay
- Relay Status LED's
- Automatic transmitter/receiver address pairing mode
- Wide power supply range: 8Vdc-16Vdc
- RPSMA antenna connector. (compatible with our RPSMA series antenna)
- Companion to 18CHTX-SERVAC transmitter modules
- On board High current DC/DC converter for driving all 10 relays simultaneously
- PCB size: 146.7mm(5.775 in.) x 101.3 mm (4 in.)
- Enclosure option available

Setup

Please refer to the 32IO-SERVER for details on configuring ports as OUTPUT.

With the 32IO SERVER correctly configured and operational, and the 18CHTX transmitter connected to the selected OUTPUT port of the 32IO SERVER, the 10R8D-SERVAC receiver can be setup as described below.

Connecting the 10R8D-SERVAC receiver

Power Supply

The receiver operates off a DC power supply with an output voltage of anywhere between 8Vdc and 16Vdc. The power supply used must be rated for 500mA minumum. A typical power supply may be a wall adaptor rated at 12Vdc, 500mA (or higher).

Relay Outputs

Each relay output contains three contacts: COMMON (COM), NORMALLY OPEN (N/O) and NORMALLY CLOSED (N/C). The relay contact rating is 10A @125Vac maximum.

For **relays 1 through 5**, looking into the connector, the centre contact is COM, the **left** contact is **N/O** and the **right** contact is **N/C**. When the relay is OFF (LED is OFF) the COM and N/C contacts will be connected. When the relay is ON (LED is ON) COM and N/O contacts will be connected.

For **relays 6 through 10**, looking into the connector, the **centre** contact is COM, the **right** contact is **N/O** and the **left** contact is **N/C**. When the relay is OFF (LED is OFF) the COM and N/C contacts will be connected. When the relay is ON (LED is ON) COM and N/O contacts will be connected.

RX/TX Pairing (Addressing)

The transmitter and receiver are already paired at the factory. The following procedure need only be performed if the transmitters address has been changed or if additional transmitters and receivers are to be used with the 32IO-SERVER . The preconfigured transmitter default address is DIP switch # 2 and #4 set to ON position.

Before the transmitter and receiver can communicate, they must be paired to have the same system address. The desired address is set via the 8 position DIP switch on the 18CHTX transmitter. The 10R8D-SERVAC receiver will need to LEARN this address and is simply performed as follows:

It is recommended, although not absolutely necessary, that the transmitter and receiver are in close proximity to one another when performing the address pairing. This may be more convenient when verifying the success of the pairing process.

- Press and hold the LEARN button for a few seconds. (5 seconds should be sufficient) The POWER/LEARN LED begins flashing to indicate the pairing mode is active.
- Whilst the LEARN button is pressed the transmitter will have transmitted its address several times and the receiver will have stored this address in non-volatile memory.
- Release the LEARN button.
- Test communication by clicking an OUTPUT DEVICE 1 through 8 to ON via the 32IO SERVER's web interface
- The corresponding relay on the 10R8D should respond indicating successful pairing. If not, the learn procedure needs to be repeated.

Antenna

The 10R8D is supplied with a wire antenna installed as well as an RPSMA antenna connector for attaching an external antenna directly or remotely via our RPSMA-XMF antenna extension cable. Please visit our website for further details on antenna options. If an external antenna is to be used, it is important that the wire antenna be completed removed from the 10R8D-SERVAC receiver.

10R8D-SERVAC receiver in operation

The receiver's relay outputs will activate or deactivate under control of the 32IO-SERVER's web interface. The interface allows for each relay to be activated or deactivated independently or ALL active relays can be simultaneously de-activated or ALL de-active relays can be simultaneously activated.

Note that the 10R8D-SERVAC receiver has 10 relay outputs whereas the 32IO-SERVER web interface controls 8 devices.
The following table shows which relays are controlled via the 32IO SERVER web interface.

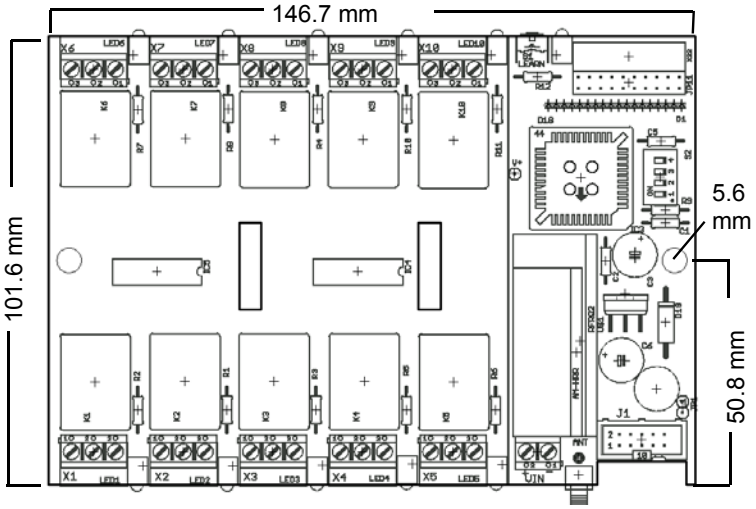
32IO-SERVER	DEVICE 1	DEVICE 2	DEVICE 3	DEVICE 4	DEVICE 5	DEVICE 6	DEVICE 7	DEVICE 8
10R8D-SERVAC RELAY	1&2	3	4	5	6	7	8	9 & 10

In the event of a power cycling condition at the 10R8D-SERVAC the relay output states will be restored to the conditions prior to power down. This feature is managed under the control of the 18CHTX-SERVAC transmitter.

Optional Enclosure

The 10R8D is supplied either as a printed circuit board subassembly or packaged in an enclosure as pictured below. We offer customization service of the graphic legend on the end panels as a service to customers who have their own marking and labeling requirements. Please contact us for details.

Mechanical Dimensions



Compatibility with other transmitters

The 10R8D-SERVAC receiver is also compatible with the 18CHTXu transmitter and the 18CHTX transmitter. Considering the 10R8D-SERVAC is designed primarily for operation with the 18CHTX-SERVAC transmitter under control of the 32IO-SERVER, there will be limited functionality of the 18CHTXu and 18CHTX when used with the 10R8D-SERVAC receiver.

- The 18CHTXu transmitter features 16 tactile pushbuttons and 18 external switch input screw terminals.
- The 18CHTX has 18 external switch inputs and no pushbuttons.
- Please visit our website for further details on these.

10R8D-SERVAC Technical Specifications

Operating Voltage	8Vdc-16Vdc
Operating Current (standby)	20mA
Operating Current (Max)	450mA
Relay Contact Rating	10A @ 125VAC
Relay Contact (single pole)	Form C
Relay Output Mode	Latch
RF Receiver Section	
Operating Frequency	433.92MHz or 868.35MHZ
Sensitivity	-107dBm typical
RF bandwidth	+- 200KHz typical
FM Deviation	+- 25KHz typical

32IO SERVER Configuration

Example system setup using the 18CHTX transmitter (SERVAC version) and 10R8D relay receiver (SERVAC version) with the 32IO SERVER.
This configuration provides a wireless link from the 32IO SERVER output port to the user's devices. A computer connected to the internet anywhere in the world, is able to control up to 8 remote user devices connected to the 10R8D-SERVAC receiver's relay outputs. The 3 remaining I/O ports of the 32IO SERVER are available for connecting any other SERVACs (SERVAC = 32IO **SERV**ER **AC**CESSORIES)