WILL • BURT

“NIGHTSCAN SERVLITE”

Controller Technical Manual

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WILL • BURT
"NIGHTSCAN SERVLITE"
P.O. #VS1078C

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Product Description

This product Controls a two-axis positioner for a dual flood lamp assembly. It permits rotating the lamps left, right, up, and down. This allows the end user to aim the light output where it is needed. The lamps can also be turned on and off through the Controller. All control is done via a wireless RF link. A small hand-held Transmitter with push-buttons sends user commands to the Controller/Receiver in the remote lamp assembly.

Receiver/Controller Specifications

Power Input: 12VDC Nominal, 10~14VDC Usable Range
Current Draw: 14A @ 12V with Qty. 2 80W Lamps Turned On
Termination: Screw Terminal Strip, Two Position, 6-32 Screw with Wire Clamp, 0.375in Pitch, Max Wire Size #12AWG

Over-Current Protection:

Controller Load	Qty 1 Solid-State Self-Resetable Fuse, No User Access Note: Supply Power to the Controlling Components is Electrically Isolated from the12V Input Power by an On-Board DC~DC Converter.
Motor Load	Qty 1 Solid-State Self-Resetable Fuse, No User Access
Lamp Load	Qty 1 Automotive "Mini® ATO®" type, 15A, 32VDC LITTLEFUSE Type MIN 15 or Equal Replaceable After Removing part of the Cover.

Motor Outputs: Qty 2 Polarity Reversing "H-Bridge" Configuration, Dynamic Braking, Wet Relay Drive,
12VDC Nominal @0.4ADC Max Continous Each, Fused at 1A
Termination, Qty 2 .032 X .187 Male Tabs per Motor

Lamp Outputs:

Wet Relay Type, “PUSH-0N, PUSH-OFF” Controlled
12VDC Nominal @ 14A Max (Both Lamps) Continous, Fused @ 15A
Termination, Qty 2 .032 X .187 Male Tabs per Lamp

Motor Limit Switch Inputs

Qty 2 per Motor, Contact Current <50mA, An Open Contact for a given Direction, Disables the Motor for that direction:
LS1= End of Travel for “UP” Lamp Position
LS2= End of Travel for “DOWN” Lamp Position
LS3= End of Travel for “RIGHT” Lamp Position
LS4= End of Travel for “LEFT” Lamp Position
Termination,Qty 1 .032 X .187 Male Tabs per Limit Switch, Qty 1 Common Terminal, 032 X .187 Male Tab

Unit Addressing Inputs:

These are used to Identify a particular Receiver/Controller with a particular Transmitter. It can allow multiple “NIGHTSCAN SERVLITEs” to be in the same immediate area while still having separate control for each of them.
The Address is set by a 5 position “DIP Switch” on the Receiver/Controller. A 5 position “DIP Switch” is also used on the Transmitter. Note that if multiple Transmitters are to be used in an immediate area, different operating frequencies may be essential. This would only apply if more than one could be transmitting at the same time. There are eight available frequencies for this product. Refer to Fig. X for more details.

RF Link

900MHz (Nominal, See Table 1)
¼ Wave Detachable Whip Antenna (about 3 inches long)
Reliable Reception Range >250Ft with the Specified Transmitter.
Data Rate: ≈ 14kHz., FSK Demodulation,
6 Control Functions:
- Rotate Lamps Up
- Rotate Lamps Down
- Rotate Lamps Right
- Rotate Lamps Left
- Lamps ON
- Lamps OFF

Transmitter Specifications

Power Input: 9V Battery, Current Draw: 24mA only when any control button is pressed, Auto Shut off: Less than one second after a Button is released .

RF Link: 900MHz (Nominal, See Table 1)
¼ Wave Detachable Whip Antenna (about 3 inches long)
Output Power: Complies with FCC Part 15 for Unlicensed Class A Operation.

Data Rate: ≈ 14kHz., FSK Modulation,
6 Control Functions: Rotate Lamps Up
Rotate Lamps Down
Rotate Lamps Right
Rotate Lamps Left
Lamps ON
Lamps OFF

Table 1, Operating Frequencies

JUMPERS			**Transmit & Receive Frequency**
F2	**F1**	**F0**	
S	S	S	903.70MHz.
S	S	O	906.37MHz.
S	O	S	907.87MHz.
S	O	O	909.37MHz.
O	S	S	912.37MHz.
O	S	O	915.37MHz.
O	O	S	919.87MHz.
O	O	O	921.37MHz.
S = Shorted (Factory Default) O = Open			

Note: The Jumper Settings must match between the Transmitter and Companion Receiver.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION !
Any modifications to the Transmitter or Receiver not expressly approved by the WILL • BURT Company and/or Divelbiss Corp. could void the end users authority to operate this equipment. Any unauthorized modifications would include but not be limited to: using different antenna(s) or power sources (including batteries) than what is specified and supplied with the units.