

# 1781, Classic & WRC4 Series Single Point Discrete I/O

## SPECIFICATIONS

Discrete I/O Modules

### Relay Output & Watchdog Modules

- To specify the WRC4 package, use the prefix "WRC4" (eg. WRC4-1A5S.)
- To specify the slim package, use the "S" suffix with the 1781 prefix (eg. 1781-RO5S/RC5S.)
- To specify the mini package, use the "M" suffix with the 1781 prefix (eg. 1781-RO5M/RC5M.)
- To specify the standard package, use the "Classic" part number (eg. OAC5R or OAC5R5.)

| INPUT: WRC4 and 1781<br>INPUT: CLASSIC | WO5S/WC5S <sup>1&amp;2</sup> | RO5S/RC5S <sup>2</sup><br>OAC5R(5) | ROYS/RCYS <sup>2</sup><br>OAC15R(5) | ROXS/RCXS <sup>2</sup><br>OAC24R(5) | Units |
|--|------------------------------|------------------------------------|-------------------------------------|-------------------------------------|-------|
| Nominal input voltage                  | 5                            | 5                                  | 15                                  | 24                                  | V dc  |
| Min. input volt. @ pin 3 - WRC4        | 4.5                          | 4.5                                | 10.5                                | 19.5                                | V dc  |
| Min. input volt. @ pin 3 - 1781        | 3.0                          | 3.0                                | 9                                   | 18.0                                | V dc  |
| Max. input volt. @ pin 3 - WRC4        | 5.5                          | 5.5                                | 20                                  | 30.5                                | V dc  |
| Max. input volt. @ pin 3 - 1781        | 5.5                          | 5.5                                | 20                                  | 30.5                                | V dc  |
| Must turn off voltage                  | —                            | 1.0                                | 2.0                                 | 3.0                                 | V dc  |
| Typical input current                  | 0 (4A transient)             | 1.3                                | 3                                   | 2.2                                 | mA dc |
| Maximum input current                  | 0 (5A transient)             | 2.2                                | 4                                   | 2.5                                 | mA dc |
| Nominal input resistance               | 2.2K (series 0.1 uF)         | 2K                                 | 4.7K                                | 10K                                 | ohm   |
| Typical V+ supply current              | 50                           | 50                                 | 24                                  | 15                                  | mA dc |

| OUTPUT                      |                        |                        |                        |                        |                   |
|-----------------------------|------------------------|------------------------|------------------------|------------------------|-------------------|
| Nominal line voltage        | 5                      | 5                      | 5                      | 5                      | V dc/ V rms       |
| Maximum line voltage        | 100/125                | 100/125                | 100/125                | 100/125                | V dc/ V rms       |
| Minimum line voltage        | 0                      | 0                      | 0                      | 0                      | V dc/ V rms       |
| Max peak off-state voltage  | 100/125                | 100/125                | 100/125                | 100/125                | V dc/ V rms       |
| Max. off-state leakage cur. | 0                      | 0                      | 0                      | 0                      | mA dc             |
| Maximum on-state current    | 1A, 30 Wdc,<br>62.5 VA | 1A, 30 Wdc,<br>62.5 VA | 1A, 30 Wdc,<br>62.5 VA | 1A, 30 Wdc,<br>62.5 VA | Resistive<br>Load |
| Minimum on-state current    | 0                      | 0                      | 0                      | 0                      | mA                |
| Maximum 1 second surge      | 2.5                    | 2.5                    | 2.5                    | 2.5                    | A peak            |
| Peak on-state voltage       | 0.25                   | 0.25                   | 0.25                   | 0.25                   | V dc              |
| Maximum turn-on time        | 2                      | 2                      | 2                      | 2                      | ms                |
| Maximum turn-off time       | 1                      | 1                      | 1                      | 1                      | ms                |
| Fuse rating (WRC4 only)     | 4A                     | 4A                     | 4A                     | 4A                     | fast-acting       |

- <sup>1</sup> Timer Values:    xxx = value in millisecs.    xxs = value in seconds.  
                           40, 80, 125, 250, 500 ms    4, 8, 16, 32 sec.
- Examples:        1781-WO5S-500 has N.O. contacts & 500 ms watchdog.  
                           1781-WC5S-4S has N.C. contacts & 4 sec. watchdog.
- <sup>2</sup> 1781-RO5S/ROXS & 1781-WO5S contacts normally open (N/O)  
       1781-RC5S/RCXS & 1781-WC5S contacts normally closed (N/C)

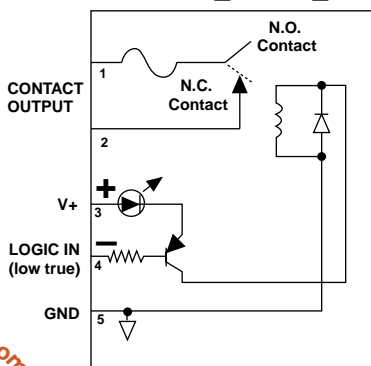
### General specifications

|                             |              |
|-----------------------------|--------------|
| Operating Temperature Range | -30 to +80°C |
| Isolation Voltage           | 1000 V rms   |
| Capacitance Input to Output | 8 pF         |

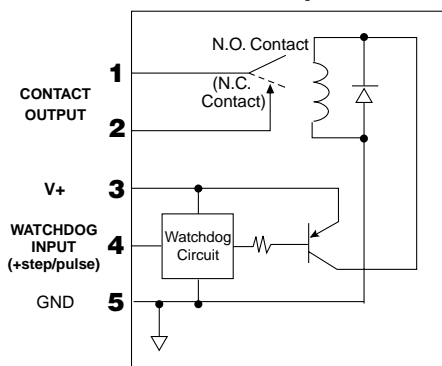
### Application notes

- Relay & watchdog modules are rated for resistive loads only.

### Classic and 1781-RO\_S/RC\_S



### 1781-WO5S/WC5S



### WRC4-RO\_S/RC\_S

