



Control over power

# DC Output Buffered Modules

- **Compatible with 5 & 15 Volt Logic Systems**
- **Buffered Inverting and Non-Inverting Modules**

Buffered output modules contain additional internal amplification to reduce drive requirements to a level suitable for the MOS devices used in many micro-processor systems. To further reduce the need for additional interface components, they are available with both inverting and non-inverting inputs, for 5 volt or 15 volt logic.

## INPUT SPECIFICATIONS

(All voltages referenced to pin 5)

|                                                   | 6311                    | 6321                    | 6341                     | 6351                   |
|---------------------------------------------------|-------------------------|-------------------------|--------------------------|------------------------|
| Nominal Input Voltage [Vdc]                       | 5                       | 5                       | 15                       | 15                     |
| Output Module Type                                | Non-Inverting           | Inverting               | Non-Inverting            | Inverting              |
| Must Turn On Voltage Range @ pin 4 [Vdc]          | 0.0 - 0.8               | 2.4 - 6.0               | 0.0 - 2.0                | 8.0 - 18               |
| Must Turn Off Voltage Range @ pin 4 [Vdc]         | 2.4 - 6.0               | 0.0 - 0.8               | 8.0 - 18                 | 0.0 - 2.0              |
| Max. Input On-Current (Sink) @ pin 4 [μA]         | 75 @ 0.8V<br>100 @ 0.0V | Ñ<br>Ñ                  | 175 @ 2.0V<br>250 @ 0.0V | Ñ<br>Ñ                 |
| Max. Input On-Current (Source) @ pin 4 [μA]       | Ñ<br>Ñ                  | 75 @ 2.4V<br>250 @ 6.0V | Ñ<br>Ñ                   | 75 @ 8.0V<br>200 @ 18V |
| Max. Input Current For Output (Sink)              | 10                      | 10                      | 10                       | 10                     |
| Off-State @ pin 4 [μA] ② (Source)                 | 10                      | 10                      | 10                       | 10                     |
| Logic Supply Voltage Range [Vdc]                  | 3.5 - 6.0               | 3.5 - 6.0               | 10 - 18                  | 10 - 18                |
| Max. Logic Supply Current (w/o LED) @ 5Vdc [mA] ① | 20                      | 20                      | 25                       | 25                     |
| Max. Logic Supply Current (w/ LED) @ 5Vdc [mA] ①  | 15                      | 15                      | 22                       | 22                     |

## OUTPUT SPECIFICATIONS

|                               |            |            |            |            |
|-------------------------------|------------|------------|------------|------------|
| Load Current Range @ 45°C [A] | 0.02 - 3.5 | 0.02 - 3.5 | 0.02 - 3.5 | 0.02 - 3.5 |
| Load Voltage Range [Vdc]      | 3.0 - 60   | 3.0 - 60   | 3.0 - 60   | 3.0 - 60   |
| Max. Surge Current [A]        | 5.0        | 5.0        | 5.0        | 5.0        |
| Max. On-State Voltage [Vdc]   | 1.5        | 1.5        | 1.5        | 1.5        |
| Max. Off-State Leakage [mA]   | 1.0        | 1.0        | 1.0        | 1.0        |
| Max. Turn On Time [μS]        | 100        | 100        | 100        | 100        |
| Max. Turn Off Time [μS]       | 100        | 100        | 100        | 100        |
| Transient Overvoltage [Vdc]   | 60         | 60         | 60         | 60         |

## GENERAL NOTES

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① LED optional. Placed in series with pin 3 for status indication.

② Max. allowable leakage current from driver maintain output off-state.

③ Inductive loads must be diode suppressed.

For recommended applications and more information contact:

USA: Sales Support (877) 502-5500 Tech Support (877) 702-7700 FAX (619) 710-8540  
Crydom Corp, 2320 Paseo de las Americas, Ste. 201, San Diego, CA 92154

Email: sales@crydom.com WEB SITE: <http://www.crydom.com>

UK: +44 (0)1202 365070 • FAX +44 (0)1202 365090 Crydom International Ltd., 7 Cobham Road, Ferndown Industrial Estate, Ferndown, Dorset BH21 7PE, Email: [intsales@crydom.com](mailto:intsales@crydom.com).  
GERMANY: +49 (0)180 3000 506



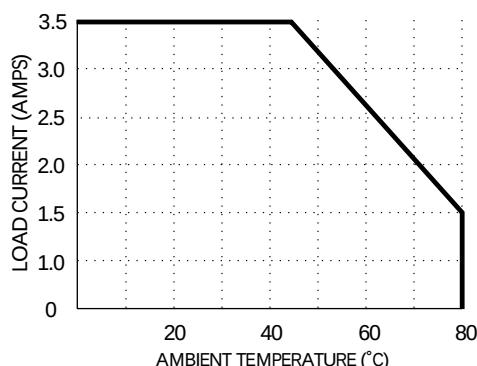


# DC Output Buffered Modules

## GENERAL SPECIFICATIONS

|                                                 |                |
|-------------------------------------------------|----------------|
| Min. Dielectric Input/Output (1 minute)         | 4,000 VRMS     |
| Min. Isolation Resistance Input/Output (@ 500V) | $10^{10}$ Ohms |
| Capacitance input to output                     | 8 pF           |
| Temperature Range Ñ Operating                   | -40°C to 80°C  |
| Temperature Range Ñ Storage                     | -40°C to 125°C |

## CURRENT DERATING CURVE



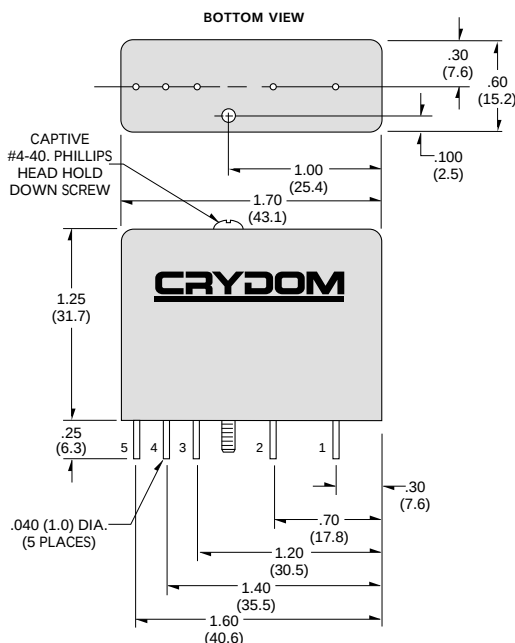
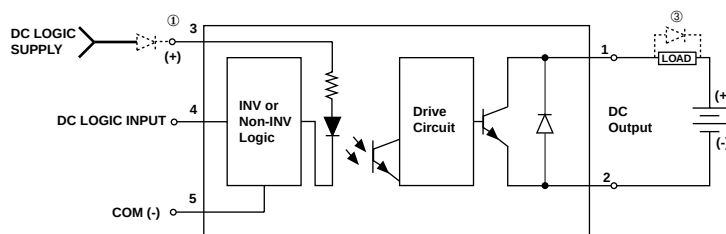
Max. Load Current vs. Temp.

## BUFFERED OUTPUT MODULES

A buffered non-inverting module turns on when pin 4 is held in the low state (logic 0), the same as standard modules driven in the sink mode. A buffered inverting module conversely turns on when pin 4 is held high (logic 1). In the absence of an input signal and/or logic supply (open Circuit), all models will be in the off-state.

Buffered modules may be used with standard 5 pin PB or MS mounting boards. However, the 3.3K pull-up resistor will add to the logic drive current of a non-inverting module and may be removed. For an inverting module, the resistor must be removed to avoid a false ÒonÓ command, unless a Ònormally closedÓ condition is desirable for use with a ground seeking (logic 0) signal source.

## WIRING & MECHANICAL DIAGRAMS



All dimensions are in inches (millimeters)

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