

Digital output module

DO

M1-20B

8 sourcing outputs (+5 VDC)

- ▶ Open emitter PNP transistor to the controller's internal +5 VDC supply
- ▶ High current: 375 mA per output / 3 A per module
- ▶ Individual LED status indicator for each output
- ▶ TTL compatible
- ▶ Optically isolated

General specifications

| | |
|--------------------|-------------------------------|
| Outputs per module | 8 |
| Output type | Sourcing (PNP open collector) |
| Connector | Removable |
| Connection type | Screw terminal |
| Terminal wire size | 14 – 22 AWG |
| Test point | All connections |
| Status indicator | One LED per input |
| Module size | 1 controller bay |

| | |
|--------------------------------------|------------------------|
| Isolation rating | 500 VDC |
| Operating temperature | |
| Horizontal installation ¹ | 0 – 50°C |
| Vertical installation ¹ | 0 – 45°C |
| Storage temperature | -25 – 85°C |
| Humidity | 5 – 95% non-condensing |
| 5100 equivalent part number | 0 |

1. Refer to the applicable controller datasheet for proper mounting instructions.

Performance specifications

| Parameter | Value |
|--------------------------|--------------|
| Nominal voltage (VN) | 5 VDC |
| Maximum ON voltage @: | |
| 50 mA | 4.5 VDC |
| 375 mA | 4.0 VDC |
| Maximum OFF voltage | Open emitter |
| Max channel current | 375 mA |
| Max module current | 3 ADC |
| Max controller current | |
| Model 5100 | 2 ADC |
| Model 5200 | 3 ADC |
| Max leak current/channel | 100 µADC |

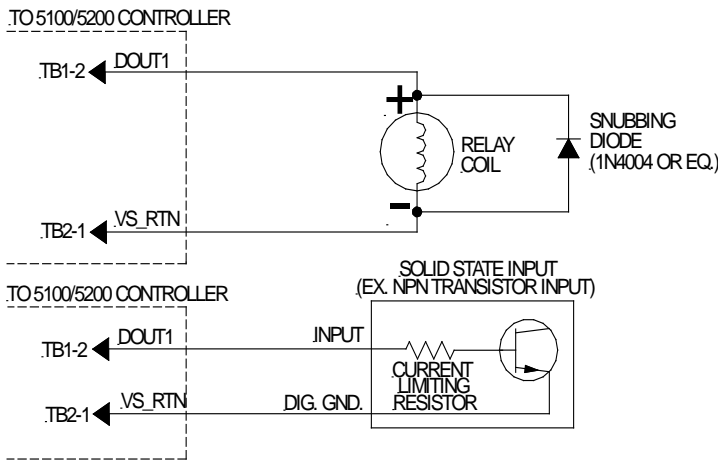
1. In the OFF state, the outputs are pulled internally low to VS_RTN via a 1 KΩ series resistor with an LED.

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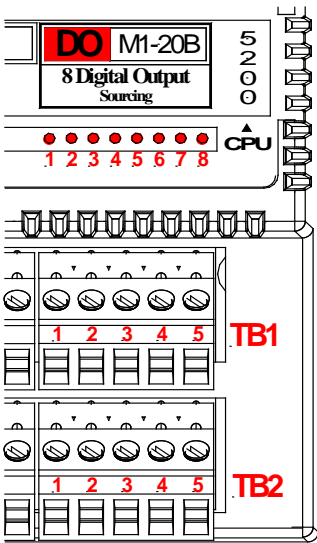
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Typical Application



| | | |
|-----------------------------------|---------|---------|
| | 5100 | 5200 |
| Minimum hardware revision | B, C, D | B, C, D |
| Minimum firmware revision | N/A | N/A |
| Minimum operating system revision | 4.04 | 5.06 |
| Document number: 950-512004-0003 | | |

Connections



I/O Terminations

| | | |
|-------|------|---------|
| TB1-1 | | VS_OUT |
| TB1-2 | LED1 | Dout #1 |
| TB1-3 | LED3 | Dout #3 |
| TB1-4 | LED5 | Dout #5 |
| TB1-5 | LED7 | Dout #7 |
| TB2-1 | | VS_RTIN |
| TB2-2 | LED2 | Dout #2 |
| TB2-3 | LED4 | Dout #4 |
| TB2-4 | LED6 | Dout #6 |
| TB2-5 | LED8 | Dout #8 |

Notes

1. Observe proper current limiting with transistor loads.
2. Use high-speed diode or equivalent to limit inductive load kicks.
3. When a digital device is powered via an external power source, it may be necessary to tie the ground of this power source to the controller's voltage supply return (VS_RTIN).
4. For register and programming information, refer to the appropriate controller Applications Guide.
5. The information and illustrations contained herein are the property of Control Technology Corporation and are subject to change without notice. Data based on VS = 24VDC @ 25°C unless otherwise noted. For additional information and/or updates visit www.ctc-control.com.