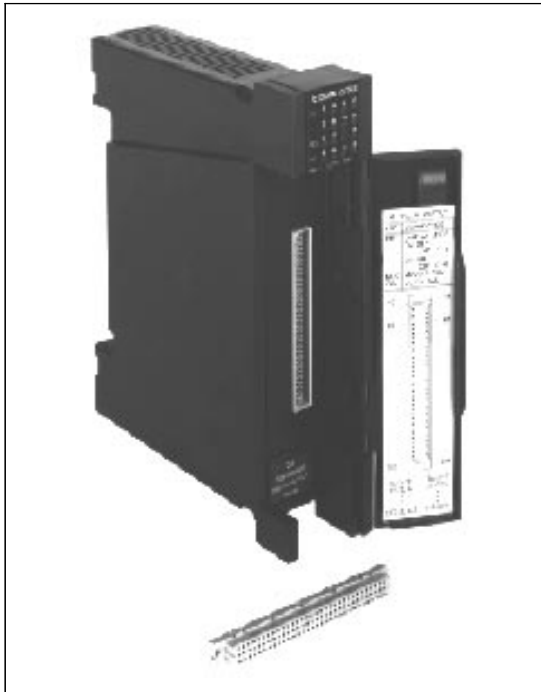# 32DO Digital Output Module

## for the MOSCAD RTU

## FEATURES

*The 32 Digital Output module is an accessory to the MOSCAD RTU family that provides 32 electronic closure (open FET) outputs; the closures may directly connect into other small-signal electronic equipment, or may control interpose relays that connect to, and control, other on-site devices. Examples include radio transceivers, trunked site controllers, and motor controllers.*



### Wire Connections

Connections to the output circuits may be made directly to the module by soldering small gauge wire directly to a mating connector, appropriate when the devices being control are very proximate because the available voltage surge immunity is minimal. Or, relay termination panel(s) may be connected to the module. These panels provide space for eight 10 amp plug-in interpose relays; the field wiring connects to screw terminals on the termination panels.

▲ *The module may be used in a variety of systems to control proximate or more distant devices. One 32DO module may control 32 momentary or 16 set-reset interpose relays.*

### Activation Feedback

The module provides feedback to the CPU that the output circuit has indeed closed.

▲ *This feedback may be treated as digital inputs and incorporated into the Application.*

### Data Output

Under the control of the defined Application Program, the CPU module will move the current status of data variables that are associated with the open outputs into the 32DO module via the motherboard. The 32DO module then "opens" or "closes" the outputs according to the status of this data.

▲ *On-site electrical devices may be controlled by the MOSCAD application.*

### Packaging

The module is packaged in a plastic housing that plugs and locks into the motherboard. The termination panel(s) may be mounted on any available flat panel; they require installation in the RackMount configuration. No jumpers, calibration pots, etc. are located on the module (any calibration is done electronically via software from the Tool-Box program.)

▲ *Modularity allows the MOSCAD RTU to be easily expanded as system wants and needs change and makes field module replacement quick and easy.*

**MOTOROLA**

## Specifications

| Order | Plant installed: V314 |
| --- | --- |
|  | Field installed: FLN2029 |
| **Outputs** | 32 "open FET" rated at 0.5 amp @ 32 Vdc |
| **Output Protection** | 1 kV between contacts, 1.5 kV between contact & coil per ANSI C37.90.1-1989 (requires termination panel) |
| **Readback** | Diode-isolated readback per output for positive confirmation of command execution |
| **Diagnostic** | 20 LEDs: 16 for inputs in 2 groups, 2 for input groups 1 or 2, 1 each for Module Fail and No Clock |
| **Power** | 5 Vdc: 15 ma |
|  | 12 Vdc: 10 ma (50 ma with LEDs on) |
| **Environment** | Humidity: 0 to 90% @ +50°C |
|  | Temperature: -30 to +60°C |

### Typical Module Output Circuit
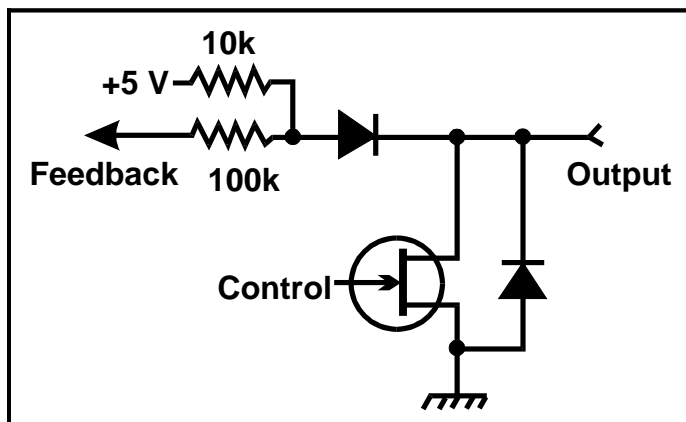


### Connections Chart

| Function | Terminals | Function | Terminals |
| --- | --- | --- | --- |
| Out 1 | 1C(+), 1A(-) | Out 17 | 17C(+), 17A(-) |
| Out 2 | 2C(+), 2A(-) | Out 18 | 18C(+), 18A(-) |
| Out 3 | 3C(+), 3A(-) | Out 19 | 19C(+), 19A(-) |
| Out 4 | 4C(+), 4A(-) | Out 20 | 20C(+), 20A(-) |
| Out 5 | 5C(+), 5A(-) | Out 21 | 21C(+), 21A(-) |
| Out 6 | 6C(+), 6A(-) | Out 22 | 22C(+), 22A(-) |
| Out 7 | 7C(+), 7A(-) | Out 23 | 23C(+), 23A(-) |
| Out 8 | 8C(+), 8A(-) | Out 24 | 24C(+), 24A(-) |
| Out 9 | 9C(+), 9A(-) | Out 25 | 25C(+), 25A(-) |
| Out 10 | 10C(+), 10A(-) | Out 26 | 26C(+), 26A(-) |
| Out 11 | 11C(+), 11A(-) | Out 27 | 27C(+), 27A(-) |
| Out 12 | 12C(+), 12A(-) | Out 28 | 28C(+), 28A(-) |
| Out 13 | 13C(+), 13A(-) | Out 29 | 29C(+), 29A(-) |
| Out 14 | 14C(+), 14A(-) | Out 30 | 30C(+), 30A(-) |
| Out 15 | 15C(+), 15A(-) | Out 31 | 31C(+), 31A(-) |
| Out 16 | 16C(+), 16A(-) | Out 32 | 32C(+), 32A(-) |

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