

- Switches—all stuck-On or stuck-Off switches or their associated drive circuitry are detected

During OVD execution, the commanded state of each point is momentarily reversed sequentially on one of the output drivers. Loop-back on the module allows each ASIC to read the output value for the point to determine whether a latent fault exists within the output circuit. The output signal transition is guaranteed to be less than two milliseconds and is transparent to most field devices. For devices that cannot tolerate a signal transition of any length, OVD can be disabled.

DO Modules include the hot-spare feature which allows online replacement of a faulty module. DO Modules are mechanically keyed to prevent improper installation in a configured baseplate.

DO Module 3401S2

This figure is a simplified schematic of the Model 3401S2 DO Module, which is self-protected against over-voltage and over-current conditions.

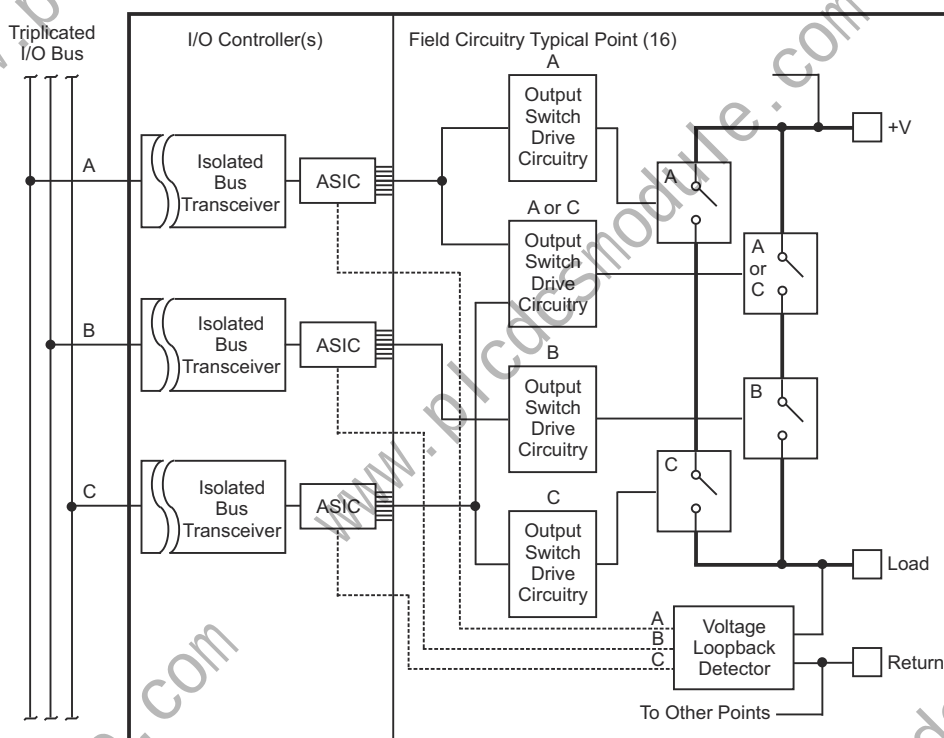


Figure 55 3401S2 DO Module Simplified Schematic

This table lists specifications for the Model 3401S2 DO Module.

Table 28 3401S2 DO Module Specifications

Feature	Specification
Points	16, commoned
Nominal output voltage	24 VDC
Operational voltage range	19–30 VDC
Absolute maximum output voltage	33 VDC
Absolute maximum reverse input voltage	–0.6 VDC
Output current	
Switching	<4.8 A, self-limiting; 3 A, typical
Carry	700 mA maximum, self limiting
Field alarms	Loss of field power, output point shorted On or Off
Loop-back thresholds	0–5 VDC = Off region 6–14 VDC = transition region 15–30 VDC = On region
Leakage to load (Off-state)	<1 mA
Diagnostic glitch duration	<2 ms, maximum; 500 μ s, typical
Diagnostic fault coverage	
Maximum toggle rate	>20 ms
Minimum toggle rate	Not applicable
On-state voltage drop	<1 VDC @ 1.5 A
Loop-back scan time	<1 ms for all 16 points
Functional-to-protective-earth isolation	500 VDC, minimum
Functional-to-functional-earth (logic) isolation	800 VDC, minimum