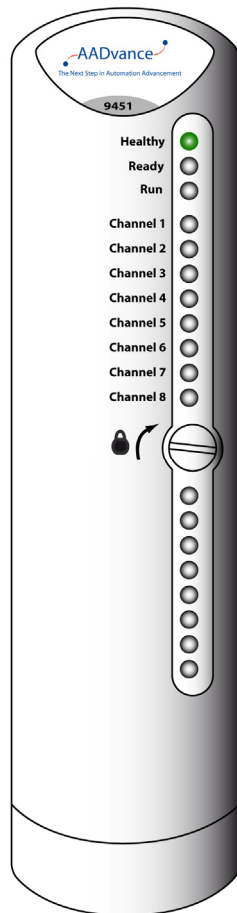


T9451 Digital Output Module, 24V dc, 8 channel



The T9451 digital output module interfaces up to eight final elements and can switch 1A at 32V dc for each device. It features voltage and load current monitoring on each channel, reverse current protection and short and open circuit line monitoring. It is designed to always be able to switch off an output when demanded. No single failure within the module can cause a stuck-on failure. The module supports dual redundant power feeds for field devices without the need for external diodes.

The output module isolates the processor module from the output channel control and data management circuits, thus protecting the processor module from potential faults in the output control circuits and field connections.

The output channel protection activates when the channel load exceeds a safe limit. The reverse voltage protection circuit in each output channel ensures that externally applied voltages do not generate current flow into the module outputs.

The module has self-checking functionality. Short circuit and open circuit line monitoring is provided on all outputs. Internal diagnostics carry out ongoing functionality checks ensuring that the output channel command data is correctly transferred to the output. In addition, the processor module initiates a test sequence on each output channel, checking for 'stuck-on' and 'stuck-off' conditions on the output switch pairs.

Front panel LEDs provide module, channel and field connection status indications. These status indications can be connected to application variables and viewed at the AADvance.

When a controller uses a pair of digital output modules in a dual configuration, the two fail-safe output switches on each channel are combined in a parallel arrangement so that they automatically form a fault-tolerant output configuration.

T9451 Digital Output Module Specification

Table 3: T9451 Digital Output Module Specification

Attribute	Value
Functional Characteristics	
Number of output channels	8 per module
Degradation	1001D, 1002D
Performance Characteristics	
Safety integrity level	IEC 61508 SIL3
Self-test interval	<30 mins (30s per module)
Electrical Characteristics	
Supply Voltage	Redundant +24V dc nominal; 18V dc to 32V dc range
Output characteristics:	
Operating field supply voltage	0V to +50V dc
Maximum voltage without damage	–1V to +60V dc
Nominal output voltage	+ 24V dc
Range	+ 18V to 32V dc
Output current	1A continuous per channel
Voltage Drop at Maximum Current	< 1volt (approximately 0.9V)
Max output current before shutdown	6 A @ 60°C for all channels
Output overload protection	
Surge	10A for up to 50ms
Continuous	1.5A
Power consumption	
Module power (from controller 24V supply)	2W
Channel Field power (from source of field power)	24W (up to 192W per module)
Total maximum power consumption	198W (all 8 channels 'on' at maximum current)
Heat dissipation	6W per module
Mechanical Specification	
Dimensions (height × width × depth)	166mm × 42mm × 118mm (6-½ in. × 1-21/32 in. × 4-21/32 in.)
Weight	340g (12 oz.)
Casing	Plastic, non flammable