



AADvance Controller

Catalog Numbers T9110, T9300, T9310, T9401/2, T9431/2,
T9451, T9481/2



Allen-Bradley

by ROCKWELL AUTOMATION

Solutions Handbook

Original Instructions

Table 31 - Digital Output Module Specification

Attribute	Value
Safety integrity level	IEC 61508 SIL 3 ⁽¹⁾
Safety level degradation	1oo1D, 1oo2D
Self-test interval	<30 minutes (30s for each module)
Electrical Characteristics	
Module supply voltage:	
Voltage	Redundant +24 Vdc nominal; 18 Vdc to 32 Vdc
Module supply power dissipation	3.0 W (10.2 BTU/hr.)
Output Voltage:	
Maximum voltage without damage	-1 V to +60 Vdc
Operating field supply voltage	18 Vdc to 32 Vdc
Maximum Field Voltage Slew Rate	150 V/s [⁽²⁾ , ⁽³⁾]
Output current:	
Minimum current required for line monitoring	10 mA for each module (20 mA for dual pair)
Maximum voltage drop	1 Vdc
Maximum current at de-rated temperature De-rated current at maximum temperature	8 A all channels @ 60 °C 6 A all channels @ 70 °C
Maximum De-energised Output Voltage Slew Rate	12 V/ms ⁽⁴⁾
Maximum Energised Output Current Slew Rate	0.9 A/ms ⁽⁴⁾
Output off resistance (effective leakage)	50 KΩ
Voltage monitoring accuracy	± 0.5 V
Current monitoring accuracy	± 10 mA
Output overload protection	
Surge	2 A for up to 50 ms
Continuous	1.5 A
Maximum field loop power dissipation	0.57 W for each field loop (1.94 BTU/hr.)
Mechanical Specification	
Dimensions (height × width × depth)	166 mm × 42 mm × 118 mm (6-1/2 in. × 1-21/32 in. × 4-21/32 in.)
Weight	340 g (12 oz.)
Casing	Plastic, non flammable

(1) SIL 3 is the maximum achievable for a single channel. Selected CPU, input and output voting configurations could increase or decrease the correct SIL achieved. Refer to the Safety Manual for more details.

(2) Limit not applicable if all outputs are energised.

(3) Limit not applicable if perturbations are less than 2.0 Vpp or last less than 3 minutes in any 60 minute period.

(4) Limit not applicable to transgressions lasting less than the process safety time configured for the module.

Transgression of the slew rate limits identified above may lead to channel failure resulting from diagnostics otherwise designed to verify that channels are operating within their defined safety accuracy.

T9851/2 Termination Assemblies for Digital Outputs

A T9851 is a simplex termination assembly for 8 digital output channels. The T9852 is a dual 8 channel output termination assembly. The terminal blocks also accept two 24 Vdc power sources for field power. The termination assembly incorporates two replaceable 10 A fuses, one for each field power source.

T9851/2 Digital Output Termination Assembly Specifications

Table 32 - Digital Output TA Specification

Attribute	Value
Functional Characteristics	
Field connections	8; Wiring: Conductor cross section maximum 1.31 mm ² (16 AWG); Stripping length 6mm (¼ in.)
Modules supported	T9851 : one T9852 : two
Electrical Characteristics	
Field supply fuses	10 A for each field supply
Mechanical Specification	
Dimensions (height x width)	
T9851	132 mm × 42 mm (5-¼ in. × 1-21/32 in.)
T9852	132 mm × 84 mm (5-¼ in. × 3-5/16 in.)
Weight	
T9851	133 g (5oz.)
T9852	260 g (10oz.)

T9892 Digital Output Termination Assembly

The T9892 Terminal Assembly module operates in conjunction with the T9451 Digital Output Module and provides 8 dual configuration output channels. It shares the same pin-out as the standard AADvance T9852 Digital Output Terminal Assembly and has the same coding peg configuration. However, the T9852 termination has a separate a connector for the field power input voltage connections and additional fusing for protection against field faults.