24 to 120 VDC Digital Output Modules

This figure is a simplified schematic for Models 3603B, 3603E, 3603T, 3604E, and 3607E, which are TMR Digital Output Modules.

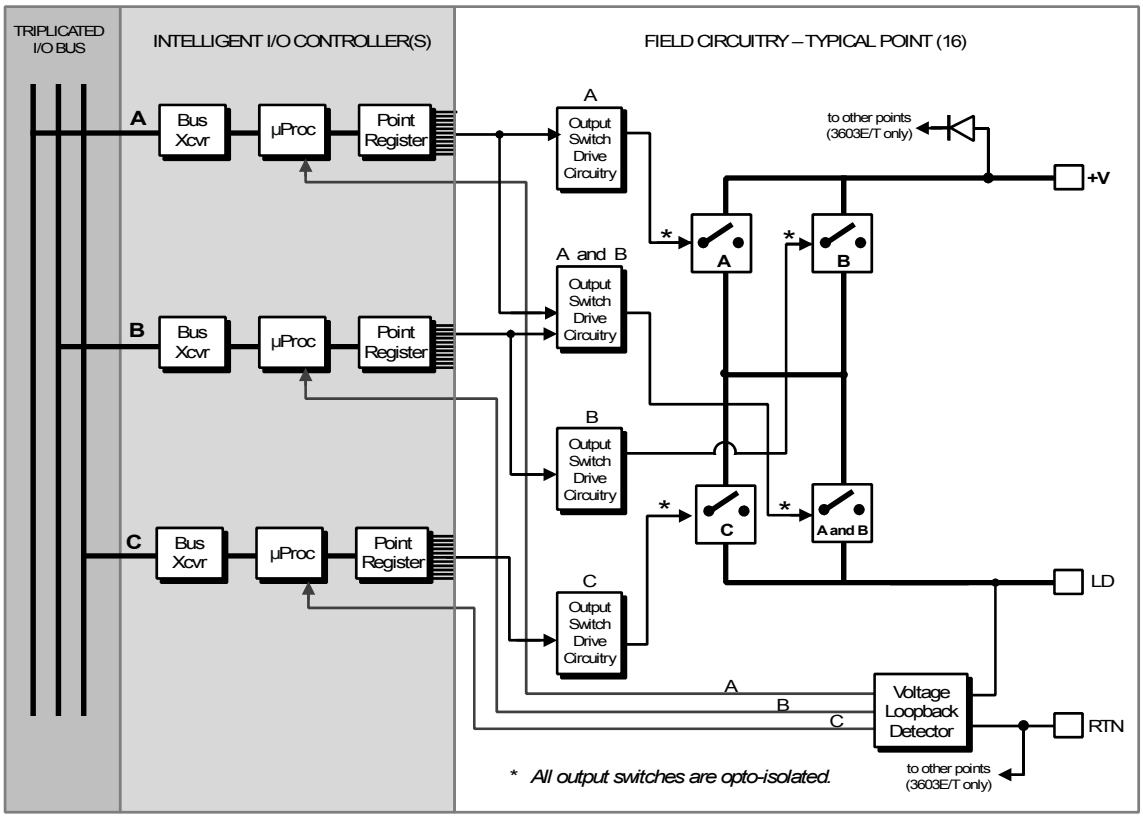

Figure 45 3603B, 3603E, 3603T, 3604E, and 3607E Simplified Schematic

This figure shows the front panels of Models 3603B, 3603E, 3603T, 3604E, and 3607E.

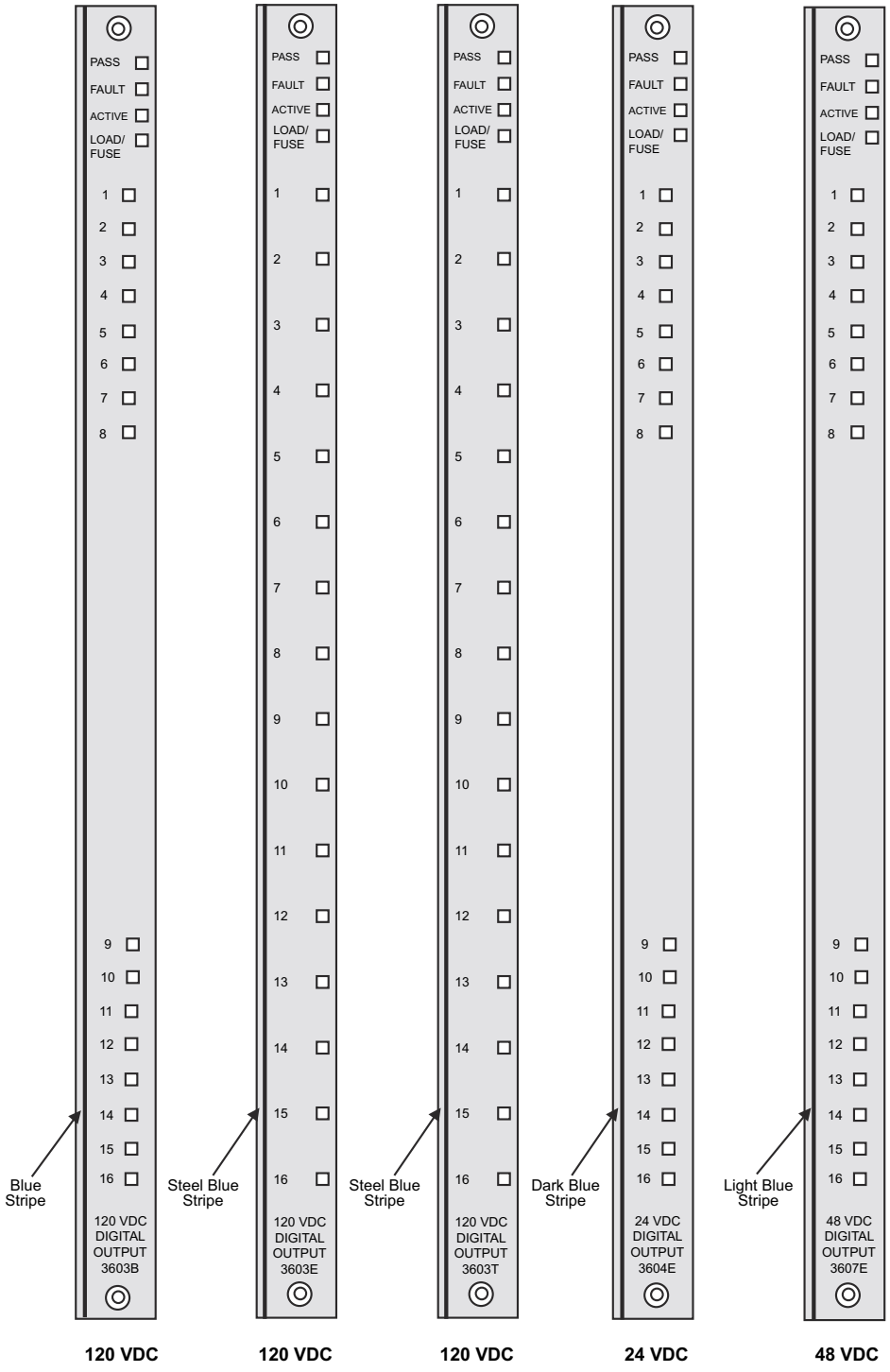

Figure 46 3603B, 3603E, 3603T, 3604E, and 3607E Front Panels

Table 39 3603E and 3603T Digital Output Specifications *(continued)*

Feature	Specification
On-state voltage drop:	
At backplane	< 0.5 VDC typical @ 250mA; < 0.5 VDC maximum @ 1A
With external termination, 10-foot cable	< 1.5 VDC typical @ 250mA; < 2.5 VDC maximum @ 1A
With external termination, 99-foot cable	< 2.5 VDC typical @ 250mA, < 5.5 VDC maximum @ 1A
Inductive kick-back protection (reverse EMF)	Reverse diode on I/O module

a. Power must be supplied to all points, including unused points on non-commoned panels.

b. The maximum output toggle rate enables proper operation of I/O diagnostics and detection of all normally detectable faults. The minimum toggle rate provides fault coverage of normally undetectable faults within 10 percent of the calculated mean-time-between-faults (MTBF) for the module.

c. Diagnostic glitching can be disabled by using the OVD disable function.

3604E Specifications

This table lists the specifications for Model 3604E, which is a TMR Digital Output Module with a nominal voltage of 24 VDC.

Table 40 3604E Digital Output Specifications

Feature	Specification
Color code	Dark blue
Number of output signals	16, non-commoned
Voltage range	22–45 VDC
Logic power	< 10 watts
Current ratings, maximum	2 amps/point, 10 amps surge/10 ms
Leakage current to load	2 mA, maximum
Fuses (field termination module)	1 per output (2.5 amps fast-acting)
Status indicator: On or Off state	1 per point
Status indicator: Module status	Pass, Fault, Active
Status indicator: Field alarm[a]	Load/Fuse
Point isolation	1,500 VDC minimum
Output diagnostic fault coverage[b]:	
Maximum output toggle rate	Every 100 ms plus one scan
Minimum output toggle rate	Not applicable
Diagnostic glitch duration[c]	2 ms maximum, 500 µs typical

Table 40 3604E Digital Output Specifications *(continued)*

Feature	Specification
On-state voltage drop:	
At backplane	< 3 VDC typical @ 500mA, < 3 VDC maximum @ 2A
With external termination, 10-foot cable	< 4 VDC typical @ 500mA, < 5 VDC maximum @ 2A
With external termination, 99-foot cable	< 6 VDC typical @ 500mA, < 11 VDC maximum @ 2A
Inductive kick-back protection (reverse EMF)	Reverse diode on I/O module

a. Power must be supplied to all points, including unused points on non-commoned panels.

b. The maximum output toggle rate enables proper operation of I/O diagnostics and detection of all normally detectable faults. The minimum toggle rate provides fault coverage of normally undetectable faults within 10 percent of the calculated mean-time-between-faults (MTBF) for the module.

c. Diagnostic glitching can be disabled by using the OVD disable function.

3607E Specifications

This table lists the specifications for Model 3607E, which is a TMR Digital Output Module with a nominal voltage of 48 VDC.

Table 41 3607E Digital Output Specifications

Feature	Specification
Color code	Light blue
Number of output signals	16, non-commoned
Voltage range	44–80 VDC
Logic power	< 10 watts
Current ratings, maximum	1 amp/point, 5 amps surge/10 ms
Leakage current to load	2 mA, maximum
Fuses (field termination module)	1 per output (1.25 amps fast-acting)
Status indicator: On or Off state	1 per point
Status indicator: Module status	Pass, Fault, Active
Status indicator: Field alarm[a]	Load/Fuse
Point isolation	1500 VDC minimum
Output diagnostic fault coverage[b:]	
Maximum output toggle rate	Every 100 ms
Minimum output toggle rate	Not applicable
Diagnostic glitch duration[c]	2 ms maximum, 500 µs typical