Installation Instructions

dc (10…60V) Output Module

Catalog Number 1771-OBD Series C

Topic	Page
About This Publication	1
Important User Information	2
Before You Begin	4
Key the Backplane	5
Install the Module	6
Interpreting the LED Indicators	11
Replace the Fuse	12
Hazardous Location Approvals	13
Specifications	15

About This Publication

Use this document as a guide when installing the 1771-OBD series C output module.

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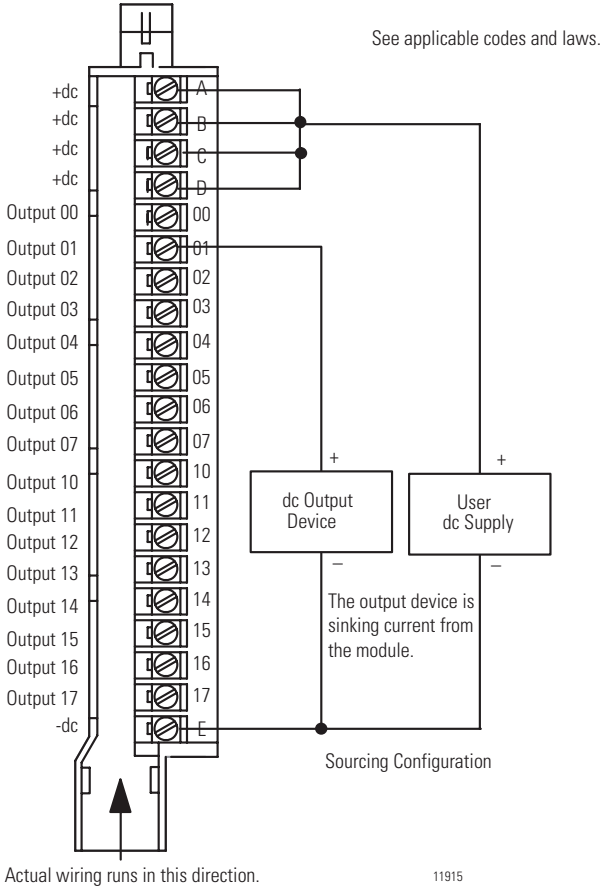
Connection Diagram



You must supply dc at terminals A through D on the wiring arm. You need four dc connections to accommodate the total required surge rating on the module without overstressing any single connection on the field wiring arm. Jumper all dc connections together to prevent module damage. Connect terminal E to dc common.

ATTENTION

Observe proper polarity, as indicated in the connection diagram on page 10 with dc power connections. Reverse polarity, or application of ac voltage, could damage the module.

IMPORTANT

You can use a dc (10…60V) output module (771-OBD series C) to directly drive terminals on the following modules:

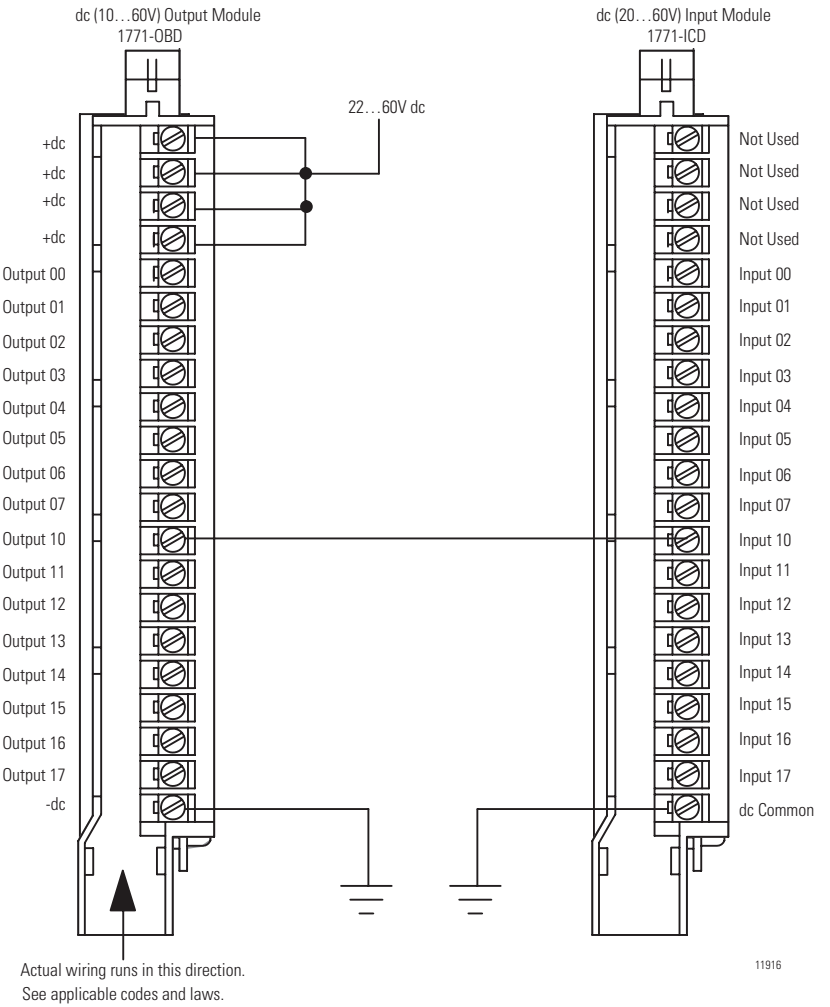
- dc (5…30V) input module (1771-IQ)
- dc (10…30V) input module (1771-IBD, 1771-IBN)
- dc (20…60V) input module (1771-ICD)
- dc (12…24V) input module (1771-IB)
- dc (24V) input module (1771-IQ16)
- dc (48V) input module (1771-IC)

Refer to Driving an Input with an Output Module on page for direct connection to a 1771-ICD input module.

IMPORTANT

Use the same dc supply to power both modules to make sure that ground is at the same potential.

Driving an Input with an Output Module



Specifications

dc (10…60V) Output Module, 1771-OBD Series C

Attribute	Value
Outputs per module	16 nonisolated
Module location	1771-A1B through 1771-A4B I/O chassis (Do not use this module with 1771-A4 I/O chassis)
User supply voltage	10…60V dc
Voltage, on-state output, nom	48V dc
Current rating (see Derating Curve)	2 A per output resistive, not to exceed 8 A per module 0.2 A per output pilot duty
Surge current, max	4 A per output for 10 ms, repeatable every 2 s 25 A per output for 10 ms, repeatable every 2 s
Load current, min	2.5 mA
On-state voltage drop (at rated current), max	1.5V dc
Off-state leakage current, max	0.5 mA
Output signal delay, max Off to on On to off	 0.1 ms 0.2 ms
Power dissipation, max	15.6 W
Thermal dissipation, max	53.3 BTU/hr
Isolation voltage (continuous-voltage withstand rating)	60V (continuous), Basic Insulation Type Tested at 1000V ac for 60 s, I/O to system
Backplane current, max	400 mA @ 5V dc
Conductors wire size Category[1]	0.34…2.5 mm^2 (22…14 AWG) solid or stranded copper wire rated at 120 °C (248 °F) or higher 1.2 mm (3/64 in.) insulation max 2 - on signal ports
Temperature code, IEC	T3
Temperature code, North America	T3C
Field wiring arm	1771-WH 1771-WHF (3 A fused)[2] 1771-WHFB (1.5 A fused)[2]
Field wiring arm screw torque	1.0 Nm (9 lb-in)
Keying	Between 10 and 12 Between 22 and 24

(1) Use this conductor category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

(2) Not suitable for Class I Division 2 Groups A, B, C, and D Hazardous Locations.

Environmental Specifications

Attribute	Value
Temperature, operating	IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock): 0…60 °C (32…140 °F)
Temperature, storage	IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold), IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat), IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock): –40…85 °C (–40…185 °F)
Relative humidity	IEC 60068-2-30 (Test Db, Unpackaged Damp Heat): 5…95% noncondensing
Vibration	IEC 60068-2-6 (Test Fc, Operating): 2 g @ 10…500 Hz
Shock, operating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 30 g
Shock, nonoperating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 50 g
ESD immunity	IEC 61000-4-2: 4 kV indirect contact discharges
Radiated RF immunity	IEC 61000-4-3: 10 V/m with 1 kHz sine-wave 80% AM from 30…1000 MHz
EFT/B immunity	IEC 61000-4-4: ±1 kV at 5 kHz on signal ports
Surge transient immunity	IEC 61000-4-5: ±1 kV line-line (DM) and ±2 kV line-earth (CM) on signal ports
Conducted RF immunity	IEC 61000-4-6: 10V rms with 1 kHz sine-wave 80% AM from 150 kHz…30 MHz
Emissions	CISPR 11: Group 1, Class A (with appropriate enclosure)
Enclosure type rating	None (open style)

Certifications

Certification (when product is marked)[1]	Value
UL	UL Listed Industrial Control Equipment. See UL File E65584
CSA	CSA certified Process Control Equipment. See CSA file LR54689C.
CSA	CSA certified Process Control Equipment for Class I, Division 2, Groups A, B, C and D Hazardous locations. See CSA file LR69960C.
EEx	European Union 94/9/EC Directive, compliant with: EN 60079-15; Potentially Explosive Atmospheres, Protection n (zone 2)
CE	European Union 89/336/EEC EMC Directive, compliant with: EN 61000-6-4; Industrial Emissions EN 50082-2; Industrial Immunity EN 61326; Meas./Control/Lab., Industrial Requirements EN 61000-6-2; Industrial Immunity
C-Tick	Australian Radiocommunications Act compliant with AS/NZS CISPR 11, Industrial Emissions

(1) See the Product Certification link at www.ab.com for Declarations of Conformity, certificates, and other certification details.