Accessories—I/O Modules

1756 Removable Terminal Blocks

Removable terminal blocks (RTBs) provide a flexible interconnection between your plant wiring and 1756 I/O modules. The RTB plugs into the front of the I/O module. The type of module determines the RTB you need. You can choose screw-clamp or spring-clamp RTBs.

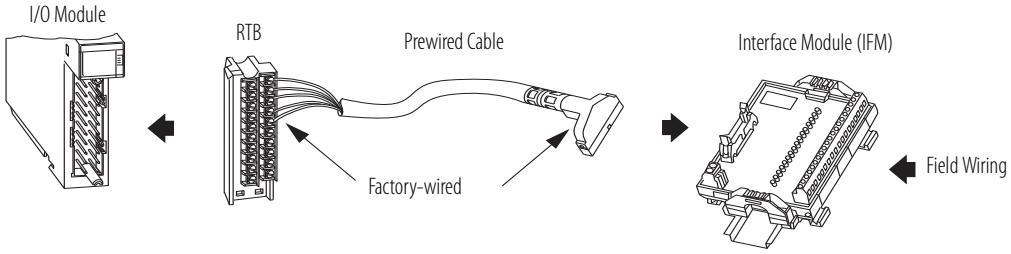
RTBs are not shipped with I/O modules. You must order them separately. The standard housing on the front of the wiring arm is not necessarily deep enough for 2.5 mm^2 (14 AWG) wiring. If you plan to use 2.5 mm^2 (14 AWG) wiring, also order the extended housing. For more information on Extended-Depth Housing, see Rockwell Automation Knowledgebase article #41488, Use of the 1756-TBE Extended Terminal Housing. You can access the article at: (Login required) https://rockwellautomation.custhelp.com/.

Attribute	1756-TBNH	1756-TBSH	1756-TBCH	1756-TBS6H	1756-TBE
Description	20-position NEMA screw-clamp removable block	20-pin spring-clamp removable terminal block with standard housing	36-pin cage-clamp removable terminal block with standard housing	36-pin spring-clamp removable terminal block with standard housing	Extended depth terminal block housing
Screw torque	0.8…1 N•m 7…9 lb•in		0.4 N•m 4.4 lb•in		—

Wiring Systems

As an alternative to buying RTBs and connecting the wires yourself, you can buy a wiring system of the following:

- Interface modules (IFMs) that provide the I/O terminal blocks for digital I/O modules. Use the prewired cables that match the I/O module to the IFM.
- Analog interface modules (AIFMs) that provide the I/O terminal blocks for analog I/O modules. Use the prewired cables that match the I/O module to the AIFM.
- I/O module-ready cables. One end of the cable assembly is an RTB that plugs into the front of the I/O module. The other end has individually color-coded conductors that connect to a standard terminal block.



ControlLogix I/O Modules

The ControlLogix architecture provides a wide range of input and output modules to span many applications, from high-speed digital to process control. The ControlLogix architecture uses a Producer-Consumer model so that input information and output status can be shared among multiple controllers.

Each ControlLogix I/O module mounts in a ControlLogix chassis and **requires** a removable terminal block (RTB) or a 1492 interface module (IFM) to connect all field-side wiring. RTBs and IFMs are not included with the I/O modules. They must be ordered separately.

For detailed specifications, see 1756 ControlLogix I/O Modules Specifications Technical Data, publication 1756-TD002.

AC Digital Input Modules

Cat. No.	Inputs/Outputs	Voltage Category	Operating Voltage Range	Removable Terminal Block
1756-IA8D	8 diagnostic inputs (4 points/group)	120V AC	79…132V AC	1756-TBNH 1756-TBSH
1756-IA16	16 inputs (8 points/group)	120V AC	74…132V AC	1756-TBNH 1756-TBSH
1756-IA16I	16 individually isolated inputs	120V AC	74…132V AC	1756-TBCH 1756-TBS6H
1756-IA32	32 inputs (16 points/group)	120V AC	74…132V AC	1756-TBCH 1756-TBS6H
1756-IM16I	16 individually isolated inputs	240V AC	159…265V AC	1756-TBCH 1756-TBS6H
1756-IN16	16 inputs (8 points/group)	24V AC	10…30V AC	1756-TBNH 1756-TBSH

AC Digital Output Modules

Cat. No.	Inputs/Outputs	Voltage Category	Operating Voltage Range	Removable Terminal Block
1756-OA8	8 outputs (4 points/group)	120/240V AC	79…265V AC	1756-TBNH 1756-TBSH
1756-OA8D	8 diagnostic, electronically fused outputs (4 points/group)	120V AC	74…132V AC	1756-TBNH 1756-TBSH
1756-OA8E	8 electronically fused outputs (4 points/group)	120V AC	74…132V AC	1756-TBNH 1756-TBSH
1756-OA16	16 mechanically fused/group outputs (8 points/group)	120/240V AC	74…265V AC	1756-TBNH 1756-TBSH
1756-OA16I	16 individually isolated outputs	120/240V AC	74…265V AC	1756-TBCH 1756-TBS6H
1756-ON8	8 outputs (4 points/group)	24V AC	10…30V AC, current > 50 mA 16…30V AC, current < 50 mA	1756-TBNH 1756-TBSH

DC Digital Input Modules

Cat. No.	Inputs/Outputs	Voltage Category	Operating Voltage Range	Removable Terminal Block
1756-IB16	16 inputs (8 points/group)	12/24V DC sink	10…31.2V DC	1756-TBNH 1756-TBSH
1756-IB16D	16 diagnostic inputs (4 points/group)	12/24V DC sink	10…30V DC	1756-TBCH 1756-TBS6H
1756-IB16I	16 individually isolated inputs	12/24V DC sink/source	10…30V DC	1756-TBCH 1756-TBS6H
1756-IB16IF	16 high-speed, individually isolated inputs	12/24V DC sink/source	10…30V DC	1756-TBCH 1756-TBS6H
1756-IB16ISOE	16 individually isolated, sequence of events inputs	24/48V DC sink/source	10…55V DC	1756-TBCH 1756-TBS6H
1756-IB32	32 inputs (16 points/group)	12/24V DC sink	10…31.2V DC	1756-TBCH 1756-TBS6H
1756-IC16	16 inputs (8 points/group)	48V DC sink	30…55V DC @ 60 °C (140 °F) 30…60V DC @ 55 °C (131 °F)	1756-TBNH 1756-TBSH
1756-IG16	16 inputs (8 points/group)	5V DC TTL source (Low = True)	4.5…5.5V DC	1756-TBNH 1756-TBSH
1756-IH16I	16 individually isolated inputs	125V DC sink/source	90…146V DC	1756-TBCH 1756-TBS6H
1756-IH16ISOE	16 individually isolated, sequence of events inputs	125V DC sink/source	90…140V DC	1756-TBCH 1756-TBS6H
1756-IV16	16 inputs (8 points/group)	12/24V DC source	10…30V DC	1756-TBNH 1756-TBSH
1756-IV32	32 inputs (16 points/group)	12/24V DC source	10…30V DC	1756-TBCH 1756-TBS6H

DC Digital Output Modules

Cat. No.	Inputs/Outputs	Voltage Category	Operating Voltage Range	Removable Terminal Block
1756-OB8	8 outputs	12/24V DC source	10…30V DC	1756-TBNH 1756-TBSH
1756-OB8EI	8 electronically fused, individually isolated outputs	12/24V DC source	10…30V DC	1756-TBCH 1756-TBS6H
1756-OB8I	8 individually isolated outputs	12/24V DC source	10…30V DC	1756-TBCH 1756-TBS6H
1756-OB16D	16 diagnostic outputs (8 points/group)	24V DC source	19.2…30V DC	1756-TBCH 1756-TBS6H
1756-OB16E	16 electronically fused outputs (8 points/group)	12/24V DC source	10…31.2V DC	1756-TBNH 1756-TBSH
1756-OB16I	16 individually isolated outputs	12/24V DC sink/source	10…30V DC	1756-TBCH 1756-TBS6H
1756-OB16IEF	16 high-speed, individually isolated, electronically-fused outputs	24V DC sink/source	10…30V DC	1756-TBCH 1756-TBS6H
1756-OB16IEFS	16 scheduled, high-speed, individually isolated, electronically-fused outputs	24V DC sink/source	10…30V DC	1756-TBCH 1756-TBS6H
1756-OB16IS	16 individually isolated outputs 8 scheduled outputs	12/24V DC sink/source	10…30V DC	1756-TBCH 1756-TBS6H
1756-OB32	32 outputs (16 points/group)	12/24V DC source	10…31.2V DC	1756-TBCH 1756-TBS6H
1756-OC8	8 outputs (4 points/group)	48V DC source	30…60V DC	1756-TBNH 1756-TBSH
1756-OG16	16 (8 points/group)	5V DC TTL source (Low=True)	4.5…5.5V DC	1756-TBNH 1756-TBSH
1756-OH8I	8 individually isolated outputs	120V DC	90…146V DC	1756-TBCH 1756-TBS6H
1756-OV16E	16 electronically fused outputs (8 points/group)	12/24V DC sink	10…30V DC	1756-TBNH 1756-TBSH
1756-OV32E	32 electronically fused outputs (16 points/group)	12/24V DC sink	10…30V DC	1756-TBCH 1756-TBS6H

Contact Output Modules

Cat. No.	Inputs/Outputs	Operating Voltage Range	Removable Terminal Block
1756-OW16I	16 normally open, individually isolated outputs	5…125V DC 10…240V AC	1756-TBCH 1756-TBS6H
1756-OX8I	8 normally open 8 normally closed, individually isolated outputs (2 points/group)	5…125 DC 10…240V AC	1756-TBCH 1756-TBS6H

Analog Input Modules

Cat. No.	Inputs/Outputs	Range	Resolution	Removable Terminal Block
1756-IF6CIS	6 individually isolated inputs, current sourcing	0…20 mA (over-range indication when exceeded)	16 bits 0.34 μA/bit	1756-TBNH 1756-TBSH
1756-IF6I	6 individually isolated inputs	±10.5V 0…10.5V 0…5.25V 0…21 mA	16 bits 10.5V: 343 μV/bit 0…10.5V: 171 μV/bit 0…5.25V: 86 μV/bit 0…21 mA: 0.34 μA/bit	1756-TBNH 1756-TBSH
1756-IF8	8 single-ended inputs 4 differential inputs 2 high-speed differential inputs	±10V 0…10V 0…5V 0…20 mA	±10.25V: 320 μV/cnt (15 bits plus sign bipolar) 0…10.25V: 160 μV/cnt (16 bits) 0…5.125V: 80 μV cnt (16 bits) 0…20.5 mA: 0.32 μA/cnt (16 bits)	1756-TBCH 1756-TBS6H
1756-IF8H	8 differential voltage or current inputs, HART interface	±10V 0…5V 1…5V 0…10V 0…20 mA 4…20 mA	16…21 bits	1756-TBCH 1756-TBS6H
1756-IF8I	8 individually isolated inputs, current or voltage	±10V 0…10V 0…5V 0…20 mA	24 bits ±10.5V (1.49 μV/count) 0…10.5V (1.49 μV/count) 0…5.25V (1.49 μV/count) 0…21 mA (2.99 nA/count)	1756-TBCH 1756-TBS6H
1756-IF8IH	8 individually isolated current inputs	0…20 mA 4…20 mA	16…21 bits	1756-TBCH 1756-TBS6H
1756-IF16	16 single-ended inputs 8 differential or 4 differential (high speed) inputs	±10V 0…10V 0…5V 0…20 mA	16 bits 10.5V: 343 μV/bit 0…10.5V: 171 μV/bit 0…5.25V: 86 μV/bit 0…21 mA: 0.34 μA/bit	1756-TBCH 1756-TBS6H
1756-IF16H	16 differential current inputs, HART interface	0…20 mA 4…20 mA	16…21 bits	1756-TBCH 1756-TBS6H

Analog RTD and Thermocouple Modules

Cat. No.	Inputs/Outputs	Range	Resolution	Removable Terminal Block
1756-IR6I	6 individually isolated RTD inputs	1…487 Ω 2…1000 Ω 4…2000 Ω 8…4000 Ω	16 bits 1…487 Ω: 7.7 mΩ/bit 2…1000 Ω: 15 mΩ/bit 4…2000 Ω: 30 mΩ/bit 8…4020 Ω: 60 mΩ/bit	1756-TBNH 1756-TBSH

Cat. No.	Inputs/Outputs	Range	Resolution	Removable Terminal Block
1756-IRT8I	8 individually isolated inputs, RTD or thermocouple inputs (2 CJC)	1...500 Ω 2...1000 Ω 4...2000 Ω 8...4000 Ω -100...100 mV	24 bits 0...510Ω: 0.06 mΩ/count 0...1020Ω: 0.12 mΩ/count 0...2040Ω: 0.25 mΩ/count 0...4080Ω: 0.50 mΩ/count -101...101 mV: 0.01 μV/count	1756-TBCH 1756-TBS6H
1756-IT6I	6 individually isolated thermocouple inputs 1 CJC	-12...78 mV -12...30 mV	16 bits -12...78 mV: 1.4 μV/bit -12...30 mV: 0.7 μV/bit	1756-TBNH 1756-TBSH
1756-IT6I2	6 individually isolated thermocouple inputs 2 CJC	-12...78 mV (1.4 μV per bit) -12...30 mV (0.7 μV per bit)	16 bits -12...78 mV: 1.4 μV/bit -12...30 mV: 0.7 μV/bit	1756-TBNH 1756-TBSH

Analog Output Modules

Cat. No.	Inputs/Outputs	Range	Resolution	Removable Terminal Block
1756-OF4	4 voltage or current outputs	±10V 0…20 mA	Voltage: 15 bits across 10.5V, 320 μV/bit Current: 15 bits across 21 mA, 650 nA/bit	1756-TBNH 1756-TBSH
1756-OF6CI	6 individually isolated outputs, current	0…21 mA	13 bits across 21 mA (2.7 μA)	1756-TBNH 1756-TBSH
1756-OF6VI	6 individually isolated outputs, voltage	±10.5V	14 bits across 21V (1.3 mV) (13 bits across 10.5V +sign bit)	1756-TBNH 1756-TBSH
1756-OF8	8 voltage or current outputs	±10V 0…20 mA	15 bits across 21 mA - 650 nA/bit 15 bits across 10.4V - 320 μV/bit	1756-TBNH 1756-TBSH
1756-OF8H	8 voltage or current outputs, HART interface	±10V 0…20 mA 4…20 mA	15…16 bits	1756-TBNH 1756-TBSH
1756-OF8I	8 individually isolated outputs, current or voltage	±10V 0…10V 0…5V 0…20 mA	16 bit ±10.5V (0.32 mV/count) 0…10.5V (0.16 mV/count) 0…5.25V (0.08 mV/count) 0…21 mA (0.32 μA/count)	1756-TBCH 1756-TBS6H
1756-OF8IH	8 individually isolated current outputs	0…20 mA 4…20 mA	15 bits across 24 mA, 732 nA per bit	1756-TBCH 1756-TBS6H

Analog Combination Input and Output Module

Cat. No.	Inputs/Outputs	Range	Resolution	Removable Terminal Block
1756-IF4FXOF2F	4 high-speed, sub-millisecond, differential inputs 2 high-speed voltage or current outputs	Input: ±10V 0…10V 0…5V 0…20 mA Output: ±10V 0…20 mA	Input: Approx 14 bits across ±10V DC (21V total) ±10V: 1.3 mV/bit, 14-bit effective 0…10.5V: 1.3 mV/bit, 13-bit effective 0…5.25V: 1.3 mV/bit, 12-bit effective Approx 12 bits across 21 mA 0…21 mA: 5.25 μA/bit Output: 13 bits across 21 mA = 2.8 μA/bit 14 bits across 21.8V = 1.3 mV/bit	1756-TBCH 1756-TBS6H

Specialty I/O Modules

Cat. No.	Inputs/Outputs	Description	Removable Terminal Block
1756-CFM	4 inputs (2 per channel) 2 outputs, current sourcing	Configurable flowmeter module 2 Flowmeter (F) inputs used for all modes 2 Gate inputs used in Totalizer mode for prover/store count	1756-TBNH 1756-TBSH
1756-HSC	2 counters, each with 3 inputs (A, B, Z for gate/reset) 4 outputs (2 points/group)	High-speed counter module 5V operation: 4.5...5.5V DC 12/24V operation: 10...26.4V DC	1756-TBCH 1756-TBS6H
1756-LSC8XIB8I	8...24V DC counters 8 individually isolated, standard inputs, or counters	Low speed counter module 8...40 kHz 24V DC counters 8 individually isolated 12/24V DC low speed (max frequency 40 kHz) counters 8 individually isolated high-speed 12/24V DC sink/source standard or counter control inputs	1756-TBCH 1756-TBS6H
1756-PLS	Left section: 2 groups of 4 outputs and 4 inputs each Center section: resolver interface and I/O control Right section: 2 groups of 4 outputs and 4 inputs each	Programmable limit switch module	Requires 3 RTBs: 1756-TBNH or 1756-TBSH