Available 1756 I/O Modules

You can select these types of digital I/O modules.

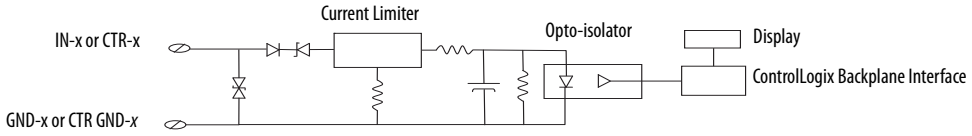
Digital I/O Type	Description
Diagnostic	These modules provide diagnostic features to the point level. These modules have a **D** at the end of the catalog number.
Electronic fusing	These modules have internal electronic fusing to help prevent too much current from flowing through the module. These modules have an **E** at the end of the catalog number.
Individually isolated	These modules have individually isolated inputs or outputs. These modules have an **I** at the end of the catalog number.

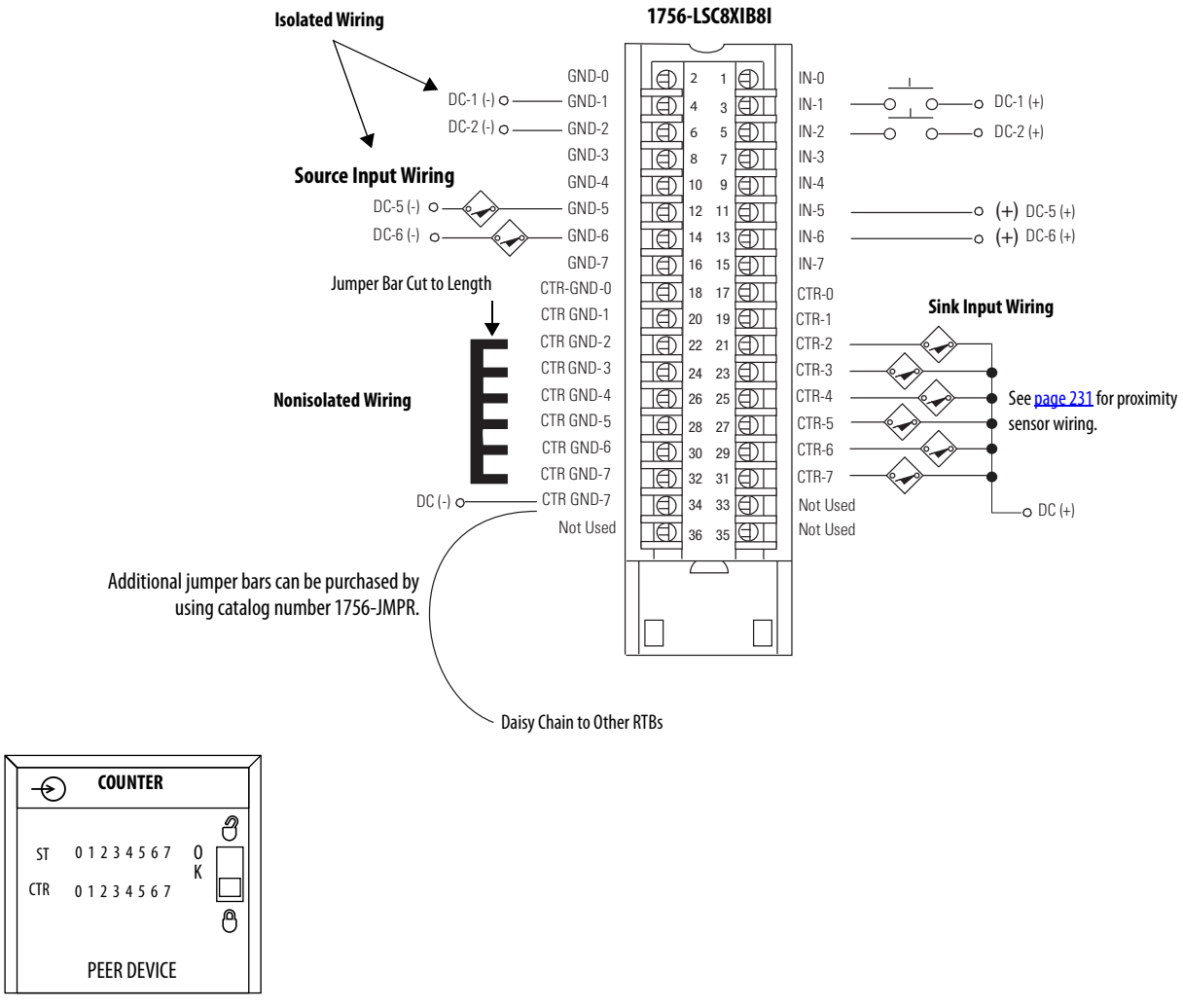
I/O Type	Cat. No.	Page	Cat. No.	Page
AC digital	1756-IA8D	4	1756-LSC8XIB8I	230
	1756-IA16	7	1756-OA8D	128
	1756-IA16I	10	1756-OA8E	131
	1756-IA32	13	1756-OA16	134
	1756-IM16I	86	1756-OA16I	138
	1756-IN16	89	1756-ON8	206
DC digital	1756-IB16	16	1756-OB8I	147
	1756-IB16D	19	1756-OB16D	150
	1756-IB16I	22	1756-OB16E	153
	1756-IB16IF	25	1756-OB16I	157
	1756-IB16ISOE	28	1756-OB16IEF	160
	1756-IB32	31	1756-OB16IEFS	163
	1756-IC16	34	1756-OB16IS	166
	1756-IG16	77	1756-OB32	169
	1756-IH16I	80	1756-OC8	172
	1756-IH16ISOE	83	1756-OG16	200
	1756-IV16	119	1756-OH8I	203
	1756-IV32	122	1756-OV16E	209
	1756-OB8	141	1756-OV32E	212
	1756-OB8EI	144		
Contact			1756-OW16I	215
			1756-OX8I	218
Analog	1756-IF6CIS	41	1756-OF4	175
	1756-IF6I	45	1756-OF6CI	179
	1756-IF8	49	1756-OF6VI	182
	1756-IF8I	57	1756-OF8	185
	1756-IF16	65	1756-OF8I	193
	1756-IF4FX0F2F	37		
	1756-IR6I	92		
	1756-IRT8I	97		
	1756-IR12	103		
	1756-IT6I	107		
	1756-IT6I2	111		
	1756-IT16	115		
HART interface	1756-IF8H	54	1756-OF8H	189
	1756-IF8IH	61	1756-OF8IH	197
	1756-IF16H	70		
	1756-IF16IH	73		
Specialty	1756-CFM	221	1756-LSC8XIB8I	230
	1756-HSC	226	1756-PLS	234

1756-LSC8XIB8I

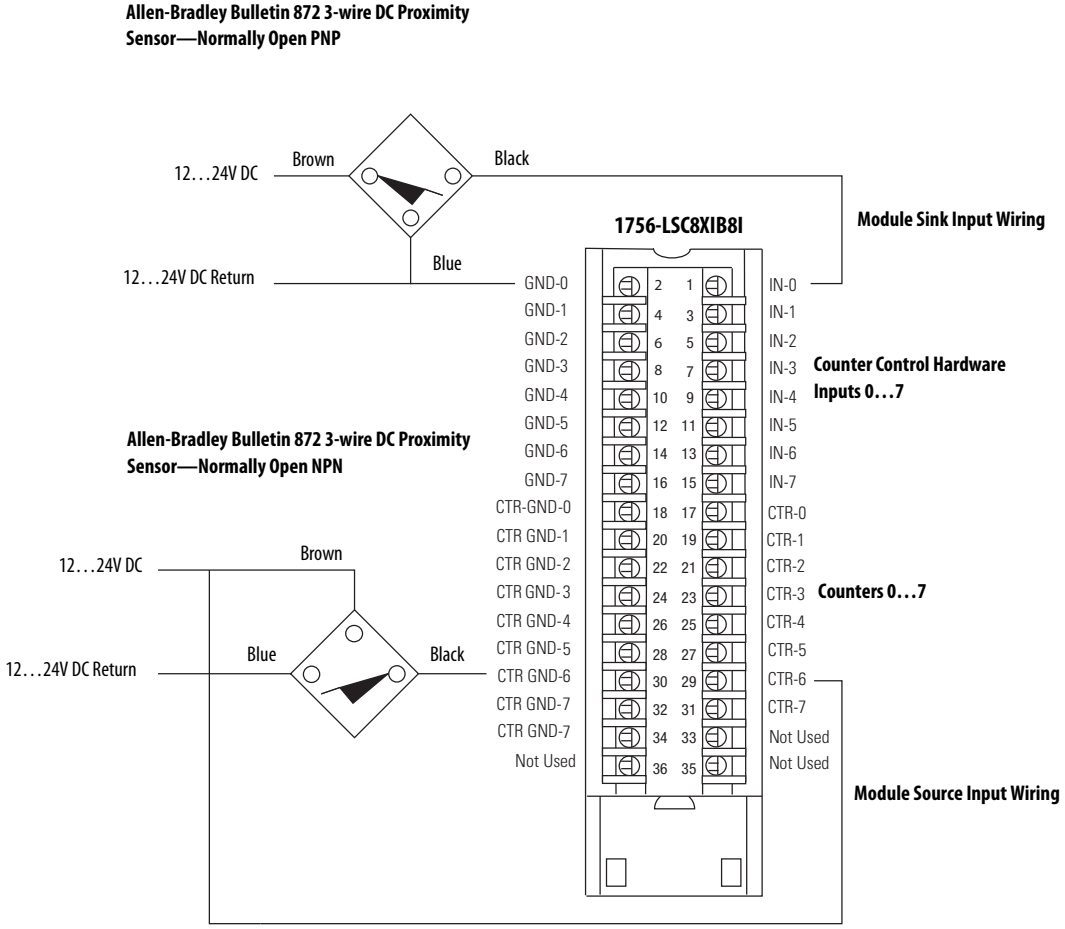
ControlLogix 10...30V low-speed counter module

Simplified Schematic





The following diagram shows how to wire a proximity sensor to the module's eight counters or eight hardware inputs. Counters use incoming pulses for counts and frequency with two user-configurable On/Off windows per counter. Hardware inputs provide standard input or counter-control functionality.



Counter Specifications - 1756-LSC8XIB8I

Attribute	1756-LSC8XIB8I
Number of counters	8 individually isolated
Counting frequency, max	40 kHz
Count range	0…2,147,483,648 (31-bit counter)
Voltage category	12/24V DC sink/source
Operating voltage range	10…30V DC
Off-state voltage, max	5V
Off-state current, max	1.5 mA
On-state current, min	2 mA @ 10V DC
On-state current, max	5 mA @ 30V DC
Change of state	Enter or exit user-configurable windows

Hardware Input Specifications - 1756-LSC8XIB8I

Attribute	1756-LSC8XIB8I
Inputs	8 individually isolated, standard input or counter-control functionality
Voltage category	12/24V DC sink/source
Operating voltage range	10…30V DC
Input voltage, nom	24V DC
Input delay time (screw to backplane) Off to On On to Off	 14 µs nom/23 µs max + user-configurable filter time of 0…30,000 µs 14 µs nom/23 µs max + user-configurable filter time of 0…30,000 µs
Off-state voltage, max	5V
Off-state current, max	1.5 mA
On-state current, min	2 mA @ 10V DC
On-state current, max	5 mA @ 30V DC
Change of state	Any transition

Module Specifications - 1756-LSC8XIB8I

Attribute	1756-LSC8XIB8I
Current draw @ 5.1V	275 mA
Current draw @ 24V	3 mA
Total backplane power	1.47 W
Power dissipation	3.8 W @ 60 °C (140 °F)
Thermal dissipation	12.97 BTU/hr
Input impedance, max	Six k Ω @ 30V DC
Cyclic update time	200 µs…750 ms
Isolation voltage	250V (continuous), reinforced insulation type, inputs-to-backplane 250V (continuous), basic insulation type, input-to-input Type tested @ 2300V AC for 60 s inputs-to-backplane Type tested @ 1500V AC for 60 s input-to-input
Module keying	Electronic, software configurable
Removable terminal block housing	1756-TBCH 1756-TBS6H
RTB keying	User-defined mechanical
Slot width	1
Wire category	1 on signal ports(1)
North American temperature code	T4A
IEC temperature code	T4
Enclosure type	None (open-style)
Reverse polarity protection	Yes

(1) Use this conductor category information for planning conductor routing as described in the system-level installation manual. See the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

Environmental Specifications - 1756-LSC8XIB8I

Attribute	1756-LSC8XIB8I
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, surrounding air, max	60 °C (140 °F)
Temperature, nonoperating 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
Emissions	CISPR 11, Class A
ESD immunity IEC 61000-4-2	6 kV contact discharges 8 kV air discharges
Radiated RF immunity IEC 61000-4-3	10V/m with 1 kHz sine-wave 80% AM from 80…2000 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 1890 MHz 3V/m with 1 kHz sine-wave 80% AM from 2000…2700 MHz
EFT/B immunity IEC 61000-4-4	±4 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…80 MHz

Certifications - 1756-LSC8XIB8I

Certification(1)	1756-LSC8XIB8I
c-UL-us	UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E65584. UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File E194810.
CE	European Union 2004/108/IEC EMC Directive, compliant with: • EN 61326-1; Meas./Control/Lab., Industrial Requirements • EN 61000-6-2; Industrial Immunity • EN 61000-6-4; Industrial Emissions • EN 61131-2; Programmable Controllers (Clause 8, Zone A & B) European Union 2006/95/EC LVD, compliant with EN 61131-2; Programmable Controllers (Clause 11)
C-Tick	Australian Radiocommunications Act, compliant with AS/NZS CISPR 11; Industrial Emissions
Ex	European Union 94/9/EC ATEX Directive, compliant with: • EN 60079-15; Potentially Explosive Atmospheres, Protection "n" • EN 60079-0; General Requirements II 3 G Ex nA IIC T4 X Gc
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with Article 58-2 of Radio Waves Act, Clause 3

(1) When marked. See the Product Certification link at http://www.ab.com for Declarations of Conformity, Certificates, and other certification details.