

NWIO-01

Watchdog and Digital I/O Module

ABB NWIO-01 is a watchdog and digital I/O option module for documented AC 800M/CI858 DriveBus or ACS 600 Special I/O installations. It provides two individually isolated digital inputs, two relay outputs and a selectable watchdog function on DO2.

CONTROLLED ENGINEERING COPY

IDENTITY	VERIFIED VALUE
Manufacturer	ABB
System family	ABB AC 800M DriveBus / ACS 600 Special I/O
Part number	NWIO-01
Document status	Controlled product and system reference

DOCUMENT SCOPE

Exact article identity, official technical data, host matching, installation checks, applications, precautions and controlled acceptance evidence.

MODEL-SPECIFIC ENGINEERING NOTE

Treat NWIO-01 as the exact watchdog and digital I/O option unit for the documented Special I/O ring. Preserve S1 addressing, X1 watchdog-time selection, field-voltage class, relay-load limits and the optical-ring topology; then verify NWIO1DI/NWIO1DO diagnostics and controlled channel response.

System Role and Architecture

ABB NWIO-01 is a watchdog and digital I/O option module for documented AC 800M/CI858 DriveBus or ACS 600 Special I/O installations. It provides two individually isolated digital inputs, two relay outputs and a selectable watchdog function on DO2.

FUNCTION 1
Exact NWIO-01 / 64168533 identity

FUNCTION 2
Two individually isolated digital inputs

FUNCTION 3
Two relay outputs with selectable watchdog on DO2

FUNCTION 4
DDCS Special I/O ring with NWIO1DI and NWIO1DO function blocks

RELATED APTER POWER PAGES

1 ABB NTAC-02

2 ABB NISA-03

3 ABB NAOM01

4 ABB MB510

5 ABB DSDO110 57160001-K

6 ABB RPBA-01 3ABD64606859

7 ABB RDCO-02C 3ABD64606956

8 ABB RRIA-01

9 ABB INTKM01

MATCHED SYSTEM COMPONENTS

NO.	DOCUMENTED COMPONENT / ROLE
01	ABB AC 800M DriveBus / ACS 600 Special I/O
02	Matched AC 800M/CI858 or ACS 600 Special I/O host
03	Recorded digital input and relay-output field wiring
04	Approved hardware-tree identity, function blocks and watchdog settings

SYSTEM INTEGRATION RECORD

INTEGRATION ITEM	DOCUMENTED ROLE
Host identity	ABB AC 800M DriveBus / ACS 600 Special I/O
Interface role	Supervised digital input and relay output interface on the ABB Special I/O ring
Field / power context	Two isolated input circuits, two relay loads and a DDCS fibre-optic ring
Commissioning evidence	Identity, S1/X1 settings, terminal map, ring status, diagnostics and channel tests recorded

INSTALLATION AND CONNECTION CHECKS

1 Confirm NWIO-01 and ABB item number 64168533 on the module and maintenance record.

2 Place the controller, drive system and connected process in the approved maintenance state.

3 Isolate field power and the Special I/O ring before removing wiring or optical connections.

4 Record S1 device number, X1 watchdog-time selection, input voltage class and every terminal assignment.

Technical Specifications

Technical values below are limited to the named product record and directly applicable manufacturer documentation.

PARAMETER	VALUE	PARAMETER	VALUE
ABB item number	64168533	Relay capacity at 250 VAC	2000 VA
Module type	Watchdog and digital I/O option unit	Watchdog output	DO2 when selected
Digital inputs	2	Watchdog time	1 s default; 0.2 s via X1
Input voltage alternatives	24 VDC or 115/230 VAC	Function blocks	NWIO1DI and NWIO1DO
Input isolation	Individually isolated	Network	DDCS Special I/O fibre-optic ring
Input hardware filter	1 ms or 8 ms selectable	Device address	S1 switch; must match hardware-tree ID
Relay outputs	2	Task interval for 1 s watchdog	Below 100 ms
Maximum continuous relay current	2 A	Task interval for 0.2 s watchdog	Below 20 ms
Relay capacity at 24 VDC	8 A resistive	CI858 ring capacity	Up to 12 Special I/O units
Relay capacity at 120 VDC	0.4 A resistive	Ring data rate	Two dataset pairs per millisecond

RELATED PRODUCT PAGES

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8 ABB RRIA-01

9 ABB INTKM01

ENGINEERING BOUNDARY

Confirm NWIO-01, ABB item number 64168533, S1 address, X1 watchdog selection, input voltage class, relay loads, DDCS ring, function-block configuration and controlled acceptance evidence before release.

PRE-INSTALLATION CHECKS

- 1

Confirm NWIO-01 and ABB item number 64168533 on the module and maintenance record.
- 2

Place the controller, drive system and connected process in the approved maintenance state.
- 3

Isolate field power and the Special I/O ring before removing wiring or optical connections.
- 4

Record S1 device number, X1 watchdog-time selection, input voltage class and every terminal assignment.

Applications and Engineering Context

AC 800M DriveBus watchdog supervision

Monitors the controller application, communication and optical Special I/O ring state.

ACS 600 Special I/O interface

Connects two documented digital inputs and two relay outputs through the DDCS ring.

Drive-system permissive and alarm logic

Uses isolated inputs and relay outputs with the recorded voltage and load classes.

Controlled maintenance replacement

Restores the exact S1 address, X1 selection, terminal map and fibre-optic topology.

TECHNICAL NOTE

Treat NWIO-01 as the exact watchdog and digital I/O option unit for the documented Special I/O ring. Preserve S1 addressing, X1 watchdog-time selection, field-voltage class, relay-load limits and the optical-ring topology; then verify NWIO1DI/NWIO1DO diagnostics and controlled channel response.

MODEL-SPECIFIC ACCEPTANCE EVIDENCE

CHECK	ACCEPTANCE CONDITION
Identity	NWIO-01 recorded
Host / carrier	ABB AC 800M DriveBus / ACS 600 Special I/O
Physical interface	Input voltage class, filter selection, relay loads and DDCS connections matched
Configuration	S1 ID, hardware-tree ID and NWIO1DI/NWIO1DO configuration restored
Functional proof	DI1, DI2, DO1, DO2 and selected watchdog response confirmed

IMPORTANT NOTICE

Confirm NWIO-01, ABB item number 64168533, S1 address, X1 watchdog selection, input voltage class, relay loads, DDCS ring, function-block configuration and controlled acceptance evidence before release.

Related Products and Source Record

Brand-qualified Apter Power navigation links are provided for system planning only; manufacturer evidence remains the named source record.

RELATED PRODUCTS ON APTER POWER

1

ABB NTAC-02

View ABB NTAC-02 page

2

ABB NISA-03

View ABB NISA-03 page

3

ABB NAOM01

View ABB NAOM01 page

4

ABB MB510

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ABB RRIA-01

View ABB RRIA-01 page

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ABB INTKM01

View ABB INTKM01 page

MANUFACTURER SOURCE RECORD

ABB AC 800M DriveBus 2PAA113566-600 and ACS 600 MultiDrive System Description 3AFY 63700151 R0325 | ABB official DriveBus and ACS 600 documentation

APTER POWER SALES TEAM

WHATSAPP / PHONE

+86 180 3023 5313

EMAIL

sales13@apterpower.com

WEBSITE

www.apterpower.com



RECOMMENDATION SCOPE

These links support product navigation and comparison. Technical values in this document are sourced only from the manufacturer record above.