

8C-TDIL01

Series 8 Digital Input Sequence-of-Events IOTA

Honeywell 8C-TDIL01 is a coated 32-circuit Series 8 digital-input sequence-of-events IOTA. It connects field contacts to the matched Series 8 SOE input processor.

MODEL IDENTITY AND VERIFIED TECHNICAL DATA

FIELD	VERIFIED VALUE
Complete model	8C-TDIL01
Part number	51306856-175
Hardware function	Digital input sequence of events IOTA
I/O circuits	32
Redundancy arrangement	Non-redundant
Coating	Conformal
Size code	9
Matched processors	8C-PDIS01 / 8U-PDIS01
System platform	Experion / PlantCruise Series 8 I/O

SIGNAL PATH



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8C-TDIL01

Verified product data

PARAMETER	VERIFIED VALUE
IOTA function	Digital input sequence of events
I/O circuits	32
Discrete input rating	24 VDC
DI power voltage range	18 to 30 VDC
Operating modes	Normal; Sequence of Events; Low Latency
Normal-mode PV scan	20 ms
Low-latency PV scan	5 ms
SOE time resolution	1 ms
Associated IOM current rating	95 mA
System-to-field isolation	1000 VAC RMS or +/-1000 VDC
Isolation technique	Optical, in IOM
ON sense threshold	13 VDC minimum or 3 mA minimum
OFF sense threshold	5 VDC maximum or 1.2 mA maximum

PARAMETER	VERIFIED VALUE
Input impedance	4.2 kOhm
Input filter and isolation delay	5 ms +/-20%
Guaranteed-ON field resistance	300 Ohm maximum at 15 VDC
Guaranteed-OFF field resistance	30 kOhm minimum at 30 VDC
Field-power selection	Internal or external
Input indication	Direct or reverse
Module removal/insertion under power	Supported
Coating	Conformal
Redundancy arrangement	Non-redundant
IOTA nominal size class	9 inch / 228 mm
Maximum stranded field wire	12 AWG / 2.5 mm2
Compatible modules	8C-PDIS01; 8U-PDIS01

Module and IOTA pairing matrix

PROCESSOR	PROCESSOR ROLE	IOTA	ARRANGEMENT
8C-PDIS01	Coated SOE digital-input processor	8C-TDIL01	Non-redundant
8U-PDIS01	Uncoated SOE digital-input processor	8C-TDIL01	Non-redundant
8C-PDIS01	Coated SOE digital-input processor	8C-TDIL11	Redundant IOTA option
8U-PDIS01	Uncoated SOE digital-input processor	8U-TDIL11	Redundant / uncoated option

OFFICIAL SERIES 8 CONTEXT

- Vertical, removable, two-tier field-wiring terminations
- High-density modular construction with the IOM mounted on the IOTA
- Internal or external field-power selection for the SOE digital-input function
- Extensive internal diagnostics and direct/reverse input indication

Honeywell PlantCruise by Experion Series 8 I/O Specification | PC03-490-100

Discrete-event signal architecture

STAGE	LAYER	HARDWARE	ENGINEERING ROLE
1	Field device	Discrete field contact	State transition
2	Termination	8C-TDIL01 IOTA	Channel termination and routing
3	Input processing	8C-PDIS01 / 8U-PDIS01	Sequence-of-events acquisition
4	Controller context	C300 / Experion	Ordered event handling and diagnostics

Commissioning verification matrix

CHECK	REQUIRED CONFIGURATION	ACCEPTANCE EVIDENCE
Product identity	8C-TDIL01 / 51306856-175	Marking matches record
Processor pairing	8C-PDIS01 or 8U-PDIS01	Assigned slot confirmed
Field-channel map	32 circuits	Terminal and channel tags retained
Event timebase	Synchronized system time	Timestamp order proven
Functional stimulus	Controlled discrete transitions	Sequence recorded correctly
Final diagnostic state	No unresolved model-specific alarm	Record retained

Engineering interpretation

The IOTA establishes the physical field interface; the assigned SOE processor performs event acquisition. Commissioning therefore must retain both the channel-to-terminal identity and the processor assignment. A controlled transition test should confirm that selected changes appear in the intended chronological order before the point set is returned to service.

TECHNICAL NOTE

Match the IOTA to the assigned SOE processor and preserve field-channel identity; after installation, synchronize the event timebase and prove transition order.

Model-specific applications

APPLICATION	8C-TDIL01 ROLE	ENGINEERING USE
Trip-sequence recording	Captures ordered discrete trips and permissive changes	Event chronology review
Switchgear event chronology	Brings breaker and auxiliary-contact transitions into SOE handling	Switching-sequence analysis
Turbine auxiliary-state capture	Records discrete machine-support state transitions	Start / trip investigation
Process interlock diagnostics	Retains ordered interlock input changes	Cause-and-effect diagnosis

Replacement and diagnostic evidence

WORK PHASE	REQUIRED RECORD
Before isolation	Complete model, part number, carrier position, processor assignm
Before wire removal	Terminal tag, channel identity, as-found field-contact state
After hardware fit	Seating, connector integrity, matching processor and configured
After configuration	Time synchronization, diagnostics and selected channel status
Before release	Controlled transition order, event record and technician accepta

Application acceptance matrix

ACCEPTANCE ITEM	REQUIRED RESULT
Selected input state	Matches the field contact and configured channel
SOE timestamp	Uses the synchronized Experion event timebase
Transition order	Matches the controlled test sequence
Final diagnostics	No unresolved IOTA or processor diagnostic

Engineer FAQ

Q1 Which processor modules pair with 8C-TDIL01?

Use the documented Series 8 SOE processor pairing: 8C-PDIS01 or 8U-PDIS01.

Q2 How many field circuits does 8C-TDIL01 terminate?

The official Series 8 I/O specification lists 32 I/O circuits for this IOTA.

Q3 What signal role does 8C-TDIL01 perform?

It terminates discrete sequence-of-events input circuits and connects them to the assigned SOE processor.

Q4 Is 8C-TDIL01 a redundant IOTA?

8C-TDIL01 is the non-redundant variant; verify the installed architecture before selecting a replacement.

Q5 What should be recorded before replacing 8C-TDIL01?

Record the complete marking, carrier position, processor assignment, terminal wiring and channel identity.

Q6 How is 8C-TDIL01 commissioned after installation?

Synchronize the event timebase, apply controlled input transitions and confirm their chronological order.

Q7 What hardware must be checked with 8C-TDIL01?

Check the Series 8 carrier, matched SOE processor, field-contact wiring and C300 event-processing configuration.

Q8 What coating is specified for 8C-TDIL01?

The directly related Series 8 I/O specification lists conformal coating.

Related Series 8 products on Apter Power

MODEL	SERIES ROLE	APTER POWER PAGE
8C-PDIL51 51454359-175	Series 8 digital-input processor module	Open product page
8C-PDILA1	Series 8 digital-input processor module	Open product page
8C-PDOD51 51454361-175	Series 8 digital-output processor module	Open product page
8C-PDODA1 51454472-175	Series 8 24 Vdc digital-output module	Open product page
8C-TDODA1 51307149-175	Series 8 digital-output IOTA	Open product page
8C-TDODB1	Series 8 redundant digital-output IOTA	Open product page

SOURCE RECORD

Honeywell PlantCruise by Experion Series 8 I/O Specification | PC03-490-100

Honeywell PlantCruise by Experion Series 8 I/O Modules | Product Information Note