



MAXIFLEX 32SOE Digital Input Module

Model M1760A (24Vdc) & M1761 (48Vdc) 32 way Sequence-of-Events Input Module

DATASHEET



FEATURES

- Captures input changes to 0.2ms resolution
- Individually programmable time delays on each input
- Debounce and chatter filtering on each input
- Easy local or remote configuration
- 32 Digital Inputs per module
- Install up to 15 modules for 480 inputs per Maxiflex system.
- Link Systems together for larger installations.

The Maxiflex M1760A 32SOE Sequence-of-Events Module monitors 32 Digital Inputs and creates time-stamped events to a resolution of 0.2ms upon change of state.

By using multiple 32SOE modules with the Maxiflex P3 CPU, powerful Sequence-of-Events systems can be constructed with up to 480 Time-Stamped inputs per system. Multiple systems can be linked and time synchronised for larger distributed systems.

The 32 inputs can be used as regular digital inputs within the P3 processor as well as independently generating change-of-state events on the module.

A buffer of up to 9362 events on each module ensures that avalanche conditions in the application cannot overflow the module.

Events from all 32SOE modules in a single system are

sorted by the P3 CPU into correct time order, and then passed to the event logging computer for display and storage.

The 32SOE module is connected to the field wiring through a multicore cable (Model C1467A) connected to a remote terminal board (Model C6332A). This has the advantage of providing compact field termination in the most convenient location in the wiring cubicle saving panel wiring cost, space and construction time.

The 32SOE module and P3 processor are compatible with the Omniflex Conet OPC Server and Omni-4000 Alarm and Event Management Supervisory Software.

The Conet OPC server reads the events time-stamped within the 32SOE module to 1ms and passes these events with time-stamp right up to the OPC Client.

Applications

- Store events leading up to process shutdowns or other abnormal plant conditions for faster fault diagnosis to reduce plant downtime.
- Use event analysis as a predictive maintenance tool by pinpointing minor problems before they develop into major ones.
- Send events over wide areas using the networking capability of Maxiflex to record plant data in a central database.
- Time stamping events at source removes timing errors caused by the latency in communications systems allowing sequence of events from fast acting systems such as electrical distribution systems to be reliably monitored.



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Specifications

Functions

Input Contact Bounce Filtering	Selectable from 0 to 1000ms for the entire module
Delay Timers	On delay and off delay individually settable from 0 to 3276ms per input
Time Lag Compensation	Compensate up to 100ms for input contact time lags
Input Inhibit	Ability to inhibit inputs from producing change of state events
Chatter filter	Selectable from 0 to 65534ms for the entire module to eliminate nuisance chattering on inputs
Event Buffer	9362 event buffer on the module.

Inputs

Number and type	32 Digital inputs. (see wiring diagrams for contact wetting voltage options)
Isolation	100% tested to 2500Vac, 50/60Hz for 1 minute all inputs to logic
Insulation Resistance	1000M Ω min. at 500Vdc
Input time stamp resolution	0.2ms
Indication	32 green LED's light to indicate the on state of each input
Recognised pulse width	600us minimum will always be recognised
Rejected pulse width	150us maximum will always be rejected

Model	M1760A	M1761A
Nominal Wetting Voltage	24Vdc	48Vdc
Guaranteed On Voltage	9 – 30Vdc	30 – 60Vdc
Input Current over voltage range	1.5 – 8mA (6mA nominal at 24Vdc)	1.5 – 4mA (3mA nominal at 48Vdc)
Guaranteed Off Voltage	< 4Vdc	<8Vdc
Guaranteed Off Current	< 0.3mA	<0.3mA

Input Termination

Termination Method	37 pin Sub-Miniature D connector on front of 32SOE module secured with two screws. Use with cable model C1467A and 32SOE Remote Terminal Board model C6332A Screw clamp Terminal Blocks on C6332A accept input wiring. (Two terminals per input)
Wire Size (C6332A)	2.0mm ² maximum may be terminated on the C332A Field Inputs.

Maxiflex Installation

Mounting	Installs into any I/O module slot of "B" version or later Maxiflex bases. (i.e. Maxiflex base models M1021B, M1022B, M1023B, M1031B or M1032B)
Hot Swap	Module may be removed and inserted whilst the system is powered and running. CAUTION: Always take the proper precautions when working on live systems to ensure safe intervention.

Logic Power Consumption

From Logic Power Supply	200mA from 5Vdc max. 0mA from 12Vdc
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Environmental

Operating/Storage Temperature	Operating: -25°C to +60°C (-13°F to +140°F) / Storage: -40°C to +70°C (-40°F to +158°F)
Safety	EN 60950:1995
Emissions	EN 55011; EN50081-2:1994 Group I, Class A; EN50082-2
Immunity – ESD	IEC 61000-4-2:1995, level 3
Immunity – RF Fields	IEC 61000-4-3:1995, level 3
Immunity – Fast Transients	IEC 61000-4-4:1995 1 kV – input/output lines
Humidity	95% max. at 40°C (104°F) non-condensing.
Tropical Protection	Electronics conformally coated

Mass

Mass	270g (9.6oz) Excluding Packaging; 360g (12.7oz) Including Packaging
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Ordering Information

Order Code	Description
M1760A	Maxiflex 32 way Sequence-of-Events module 24Vdc (9-30Vdc)
M1761A	Maxiflex 32 way Sequence-of-Events module 48Vdc (30-60Vdc)

Accessories

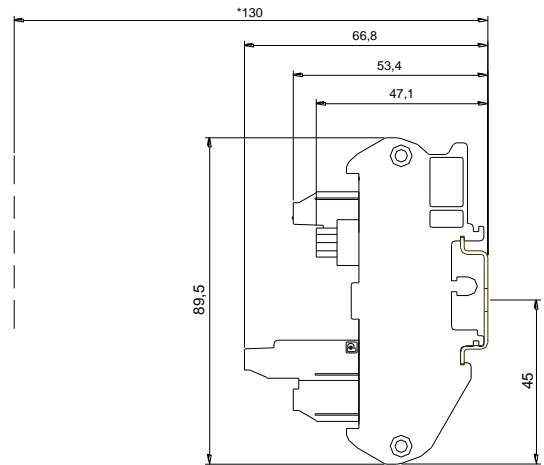
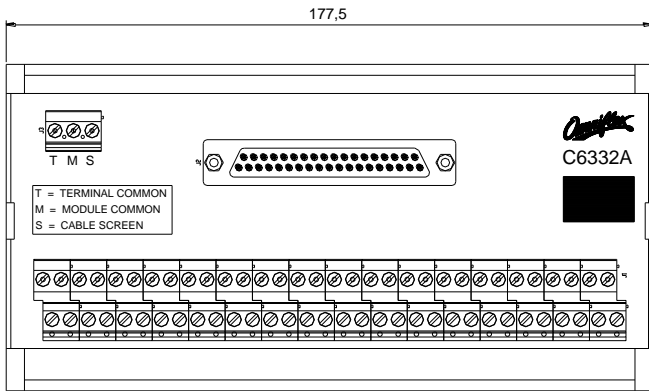
C6332A	32SOE Terminal Board
C1467A-x	Maxiflex 32SOE Field Input Cable with DB37 Male on one end and DB37 Female on the other end. Connects Maxiflex 32SOE module to C6332A Terminal Board x = length in metres. C1467-2 (2 metre length) is standard. Other lengths made to order



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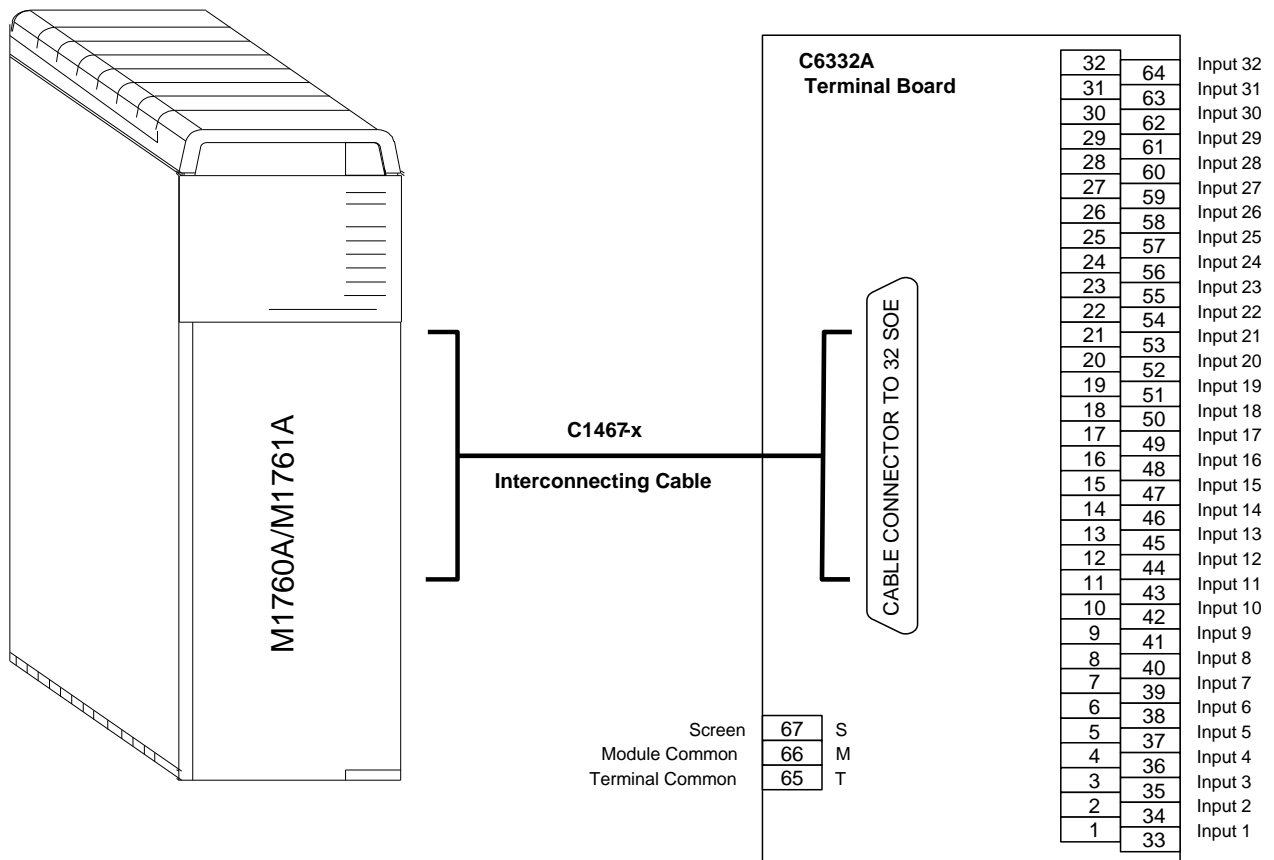
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C6332A Terminal Board Mechanical Dimensions



* NOTE: Allow a total of 130mm from the backplate to accommodate the DB37 connector and cable.

M176xA + C6332A Module Interconnecting Arrangement



Inputs 1 to 32 are connected to terminals 1 to 32 respectively.
Terminals 33 to 64 are common return terminals (connected to Terminal Common)

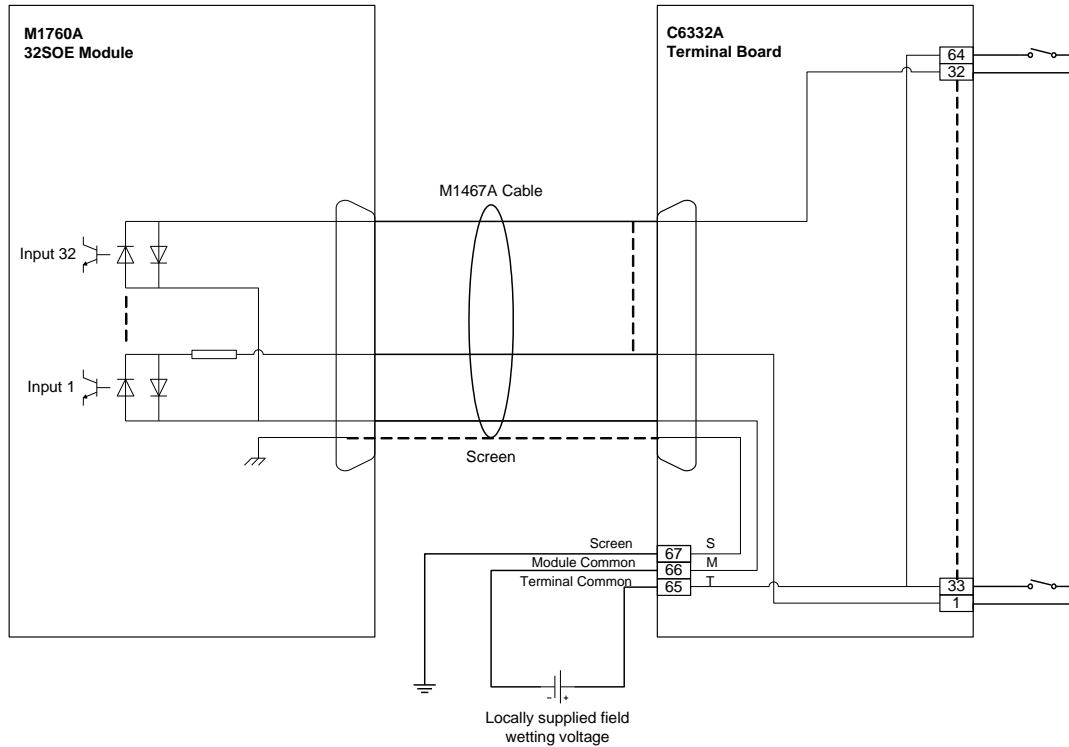


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Electrical Connections

Connection Diagram for Potentially Free Field Contacts



Connection Diagram for Field Powered Inputs

