Yokogawa ADV859-P00 S1

01 Function and selected configuration

Product function

Yokogawa ADV859-P00 S1 retains field contact sensing and switched control signals when a compatible ST2 interface is used with FIO hardware. Input-state interpretation and output timing are configured separately, so the field circuit must match both sides of the module.

Selected configuration

The ADV859-P00 design combines contact or voltage-status acquisition with transistor-contact outputs. The -P option provides pulse-width and time-proportional output capability. The 00 suffix specifies the basic type. The offered S1 style marking must be retained when checking the installed FIO hardware. Pulse-width output uses two contiguous terminals, starting at an odd-numbered terminal; configured PW/TP pairs must follow the permitted function-assignment pattern.

Functional path

Field contact / load	KS2 interface	ADV859 I/O conversion	CENTUM FIO controller

I/O allocation	16 inputs and 16 outputs
Isolation	Individually isolated channels
Field connection	KS2 dedicated cable; ST2 compatibility

Contact input is ON at 200 Ω or less and OFF at 100 kΩ or more. For voltage input, ON is ±1 VDC with source resistance no greater than 200 Ω, while OFF is 4.5–25 VDC. Input contacts require a rating of at least 5 VDC, 20 mA; minimum short-circuit sensing current is 1.25 mA.

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02 Technical operating envelope

Input channels	16
Output channels	16
Channel isolation	Individually isolated channels
Contact ON threshold	≤200 Ω
Contact OFF threshold	≥100 kΩ
Input contact rating	≥5 VDC / 20 mA
Short-circuit sensing current	Minimum 1.25 mA
Voltage ON threshold	±1 VDC; source resistance ≤200 Ω

Voltage OFF threshold	4.5–25 VDC
Output contact rating	30 VDC / 100 mA
Input response	8 ms, status input
Output response	≤16 ms
Pulse width	8 ms to 7200 s
Pulse resolution	8 ms; additional ON/OFF delay ≤1 ms
5 V current consumption	Maximum 450 mA
Field cable	KS2

Thresholds distinguish contact and voltage input modes. Output ratings and timing refer to the selected module, not to every device on the shared field cable.

Signal interpretation

Individually isolated channels determines how field references may be grouped. Preserve the installed KS2 cable and terminal-board circuit; a similar connector does not establish compatibility.

Interface boundary

The voltage-input ON condition is near zero volts, not a conventional positive 24 V ON threshold. Verify contact polarity and source resistance before proving the field state.

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03 System integration and applications

Contact-state acquisition

16 input channels acquire approved field contacts with the defined ON and OFF resistance limits.

Transistor load switching

16 output channels switch DC loads within the stated voltage/current and suppression requirements.

Timed actuation

Pulse-width or time-proportional configuration supplies controlled output durations within the module timing limits.

ST2 field migration

The KS2 connection maintains the compatible ST2 field interface while the module operates in the supported FIO system.

System and supply context

The module uses a KS2 dedicated cable with a compatible ST2 field interface. Its host FIO unit, cable, field terminal assembly and external loads are separate parts of the installed system.

Application boundary

Contact status, transistor switching and timed outputs are supported functions. Preserve the configured point modes and load protection; these are not arbitrary high-speed counter inputs.

Can the KS9 cable used for ST5 replace the KS2 connection on ADV859-P00 S1?

No interchangeable connection is established. ADV859 uses the dedicated KS2 cable and the ST2-compatible field interface; the cable and terminal mapping must match that arrangement.

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04 Engineering selection decisions

How does ADV859-P00 S1 keep separate field circuits electrically distinct?

Its input and output channels are individually isolated. Preserve that channel separation at the ST2 terminal assembly rather than adding an unintended common return.

What minimum contact rating is required at the inputs of ADV859-P00 S1?

The field input contacts must be rated for at least 5 VDC and 20 mA. Contact suitability must also satisfy the low resistance needed for a dependable ON state.

What does the -P selection add to ADV859-P00 S1?

It enables pulse-width and time-proportional output functions in addition to the module hardware role. It does not add pushbutton input capability to ADV859.

How should ADV859-P00 S1 be budgeted on the 5 V backplane?

Its maximum consumption is 450 mA at 5 VDC. Keep this figure separate from the current drawn by externally powered output loads.

Protect DC relay loads	Fit the required suppression diode and observe output polarity and 30 VDC / 100 mA ratings.
Restore point modes	Check status, pulse-width and time-proportional output assignments after configuration changes.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and factory-support phase of ADV859-P00 S1 is not confirmed. Product availability alone does not establish its lifecycle status.

Replacement assessment

Match ADV859-P00 S1, ST2 terminal hardware, KS2 cable and field reference arrangement. Preserve individual input and output point assignments.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; it does not replace manufacturer instructions.

Technical basis

Yokogawa Digital I/O Modules (for FIO), GS 33J60F70-01EN, 5th edition.

Related product navigation

- Yokogawa AAI143-H03 S1
- Yokogawa AAI841-H00 S2

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries