Yokogawa ADV161-P50 S2

01 Function and selected configuration

Product function

Yokogawa ADV161-P50 S2 captures dense contact and pushbutton signals while retaining separate field-common groups for the connected circuits.

Selected configuration

The 64 inputs are divided into common groups of 16 channels. Input circuits can use sink or source signals, but all inputs on the module must follow the same polarity arrangement. The field-common map must therefore be checked separately from the physical connector grouping.

Functional path

24 V field contact	16-channel common	Digital input scan	CENTUM logic

Input density	64 channels at 24 V DC
Field grouping	16 channels per common
Pushbutton timing	At least 20 ms ON; up to 25 Hz

The -P execution supports pushbutton inputs. A valid pushbutton event requires at least 20 ms ON time and a maximum switching frequency of 25 Hz; the ordinary input response rating alone is insufficient for evaluating a short pulse.

ADV161-P50 S2

02 Technical operating envelope

Input channels	64
Nominal signal	24 V DC, sink/source
Common grouping	16 channels per common
Input ON voltage	20 to 26.4 V DC
Input OFF voltage	5 V DC maximum
Input current	2.5 mA ±20% per channel

Maximum input voltage	30 V DC
Response time	8 ms maximum
Minimum pushbutton ON time	20 ms
Maximum pushbutton frequency	25 Hz
5 V bus consumption	550 mA maximum
Input/system withstand	2 kV AC for 1 minute; dedicated cable conditions apply

Electrical values apply to ADV161-P50. The hardware series marking does not change the stated polarity, timing or common-group requirements.

Signal interpretation

ON recognition requires 20–26.4 V DC and OFF is no more than 5 V DC. The input current is 2.5 mA ±20% per channel.

Interface boundary

All input channels must use the same sink/source polarity arrangement. Dedicated cable withstand requirements can reduce the installation insulation limit.

ADV161-P50 S2

03 System integration and applications

Operator pushbuttons

Capture pushbutton inputs that meet the specified ON time and repetition limit.

Interlock status

Acquire discrete permissive and interlock contacts in the configured logic.

Dense field inputs

Bring 64 points to the station through the applicable cable arrangement.

Grouped circuits

Separate field commons in 16-channel groups while retaining one polarity scheme.

System and supply context

ADV161-P50 is a CENTUM digital-input execution; S2 identifies the offered hardware series.

Application boundary

Use it for compatible 24 V contacts and pushbutton signals with correct common grouping and event timing.

Can ADV161-P50 S2 mix sinking and sourcing signals on one module?

No. The module supports either arrangement, but the polarity must be the same for all its inputs.

ADV161-P50 S2

04 Engineering selection decisions

How are the commons grouped on ADV161-P50 S2?

Each common serves 16 channels, giving four common groups across the 64 inputs.

What pulse duration can ADV161-P50 S2 accept as a pushbutton event?

The pushbutton input must remain ON for at least 20 ms and must not exceed 25 Hz.

Why can the cable reduce the insulation rating of ADV161-P50 S2?

The module input-to-system withstand rating is 2 kV AC for one minute, but the applicable dedicated cable can impose a 500 V AC limit on the installed connection.

What should a point test demonstrate on ADV161-P50 S2?

Apply ON and OFF levels to each assigned channel, verify the correct CENTUM point and exercise the configured pushbutton behavior without cross-activating adjacent inputs.

Pulse duration	Check 20 ms minimum pushbutton ON time.
Cable insulation	Apply the installed cable withstand limit.

ADV161-P50 S2

05 Configuration boundary and references

Lifecycle and support

The current production and factory-support status of ADV161-P50 S2 is unconfirmed.

Replacement assessment

Preserve polarity, common groups, pushbutton definitions and the CENTUM channel map.

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 GS33J60F70-01EN, 5th Edition.

Related product navigation

- Yokogawa AAI135-S50 S3
- Yokogawa AAI143-H03 S1

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

Product enquiries