

AS950 IO9000 INPUT/OUTPUT MODULE



Applications

- Wastewater
- Collection systems
- Industrial pretreatment
- Environmental monitoring
- Stormwater

Maximum versatility

The IO9000 Module allows the use of digital and analogue inputs and outputs with the AS950 sampler. With the IO9000 module, the AS950 provides more input and output options than any other Hach sampler before it. For added versatility the IO9000 is available in two versions; IO9001 is available for simple applications that only require 1 high voltage relay while the IO9004 is fully loaded. See specifications for more detail.

Outputs

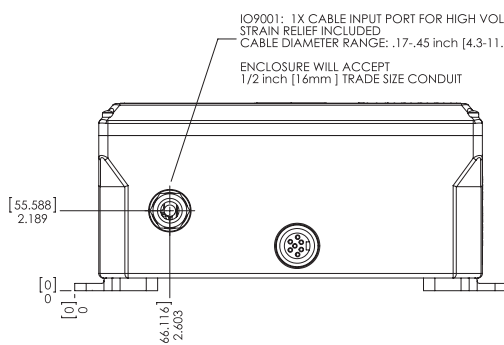
The digital outputs can be used to indicate an alarm or an event. Analogue 0/4-20 mA outputs can be used to send information to a SCADA system for parameters such as level, velocity, flow and pH. Examples of alarms and events include: sensor outside of limits (flow related, water quality related, internal temperature or ambient temperature), program started, program completed, sample being taken, bottle full (single bottle), pump running forward, pump running in reverse, pump error, distributor error, power failure, or main battery low.

Inputs

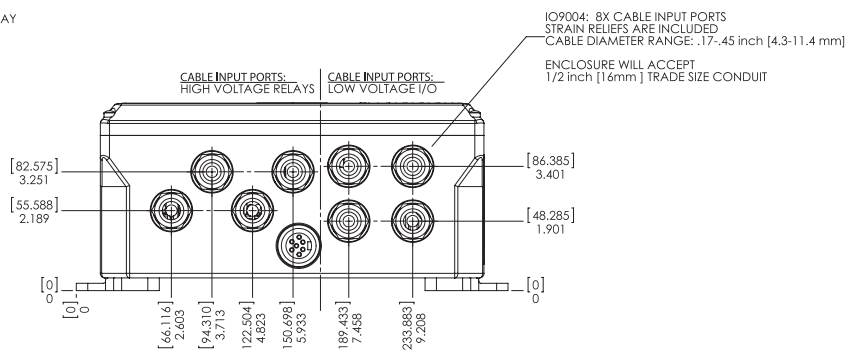
Analogue 0/4-20mA inputs can be used to trigger a sample from water quality sensors or flow meters and can be logged.

Relays

Like the digital outputs, these relay outputs are used to indicate alarms or events. The difference is that relays can be used for switching AC mains line voltage to control higher power functions. Examples for use are for a warning light or sound signal, switching a diversion valve or gate or a control signal to another machine.



Input Port Configuration: IO9001



Input Port Configuration: IO9004

Technical Data

General IO9001/IO9004

Storage conditions Temperature: -40 to 80 °C
Humidity: 100% (non-condensing)

Operating conditions Temperature: -40 to 50 °C
Humidity: 100% (non-condensing)

Altitude 2000 Meters

Certifications CETLus

Mechanical - IO9001/IO9004

Enclosure waterproof rating IP66 / NEMA 4X

Housing material Polycarbonate (UL94 VO),
hardware 18-8SS

Dimensions Enclosure with supplied mounting
brackets: 24.7 cm (9.71") length,
30 cm (11.82") width, 13 cm (5.12")
depth

Cable length 1.22 m

Inputs Enclosure inputs cable entry:
- High voltage ports: 4 cable bushings
(accomodate cable diameters
4.3 - 11.4 mm)
- Low voltage ports: 4 cable bushings
(accomodate cable diameters
4.3 - 11.4 mm)
All ports accept user installed
½" (16 mm) trade size conduit

Weight 2.5 kg

Mounting Mounting brackets and hardware
included.

Electrical - IO9001/IO9004

Power input Powered by controller

Electrical - IO9001

Relay functions

Form C (SPDT)

- Voltage rating (contacts open): 20 VAC-RMS to 230 VAC-RMS
 - Current rating (contacts closed): 6 mAAC-RMS to 500 mAAC-RMS
- Wire size: 20 AWG to 14 AWG solid or stranded copper

Electrical - IO9004

Digital outputs

- (4) Low-voltage contact closure mapped to alarm events.
- ± 30 VDC max., 150 mADC
 - 20 VAC-RMS, 150 mAAC-RMS
- Wire Size: 24 AWG to 16 AWG solid or stranded copper

Relay functions

(4) Form C (SPDT)

- Voltage rating (contacts open): 20 VAC-RMS to 230 VAC-RMS
 - Current rating (contacts closed): 6 mAAC-RMS to 500 mAAC-RMS
- Wire size: 20 AWG to 14 AWG solid or stranded copper

Analogue outputs

(3) 0/4-20 mA outputs that map logged analogue measurements
(ex. Level, velocity, flow, pH) - Can function as loop-powered or
self-powered.

- Accuracy: 0.8% of FSR over -40 to 50 °C, 0.4% of FSR over
-10 to 50 °C
 - Resolution: <0.05% of FSR
 - External Loop Power Supply Voltage: 18 V max.
 - Internal Loop Power Supply Voltage: 14 V min., 18 V max.
 - Loop Minimum Resistance: 0 Ω
 - Burden Voltage: 3.6 V max. at 25 mA
- Wire size: 24 AWG to 16 AWG solid or stranded copper

Analogue inputs

(2) 0/4-20 mA inputs generic to map external processes to
logable measurements (ex. third party ultrasonic level).

Current input mode:

- Accuracy: 0.5% of FSR over -40 to 50 °C, 0.3% of FSR over
-10 to 50 °C
- Resolution: <0.05% of FSR
- Loop power supply voltage: 18 V max. (referenced to (-) input)
- Burden: 108 Ω max. + 0.4 V max.

Voltage pulse input mode:

- Input resistance: 11 k Ω typical
- Pulse high level: 4 V min. to 15 V max.
- Pulse low level: 0 V min. to 2 V max.
- Hysteresis: 0.5 V typical
- Pulse width (high state or low state): 50 ms min.

Wire size: 24 AWG to 16 AWG solid or stranded copper

Calibration

2 point linear user calibration via controller UI

**Subject to change without notice.*

Order Information

9494500	IO9001
9494600	IO9004