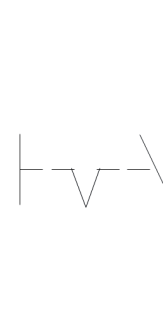
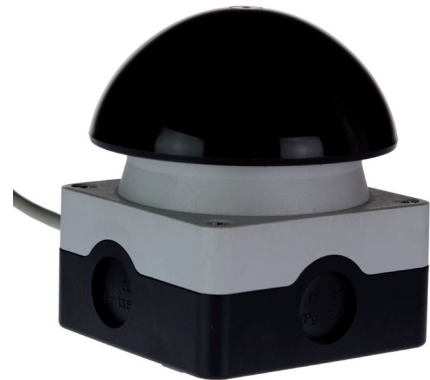


# Irinos IR-DIO

Digital in- & outputs  
for the Irinos-System



- 16 digital inputs & 16 digital outputs (high-side switch / PNP), e.g. for proximity switches, valves, start button, signal lamp, ...
- Various connection types available (M23, DSUB37 or terminal blocks)
- Overload and short circuit protection
- Data transfer of in-/output bits in parallel to measurement values
- Expandable with other Irinos-Boxes via ILink interface



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# Irinos IR-DIO

## Connector type M23



The connector type M23 is typically used for the decentralised connection of I/O connection modules. These are available from different manufacturers, e.g. MurrElektronik, Turck, Weidmüller, PhoenixContact, Erni, Escha.

2x8 digital inputs are available via two M23 connectors. The same applies to 2x8 digital outputs.

Power supply is either made

- via the ILink interface (Order-No. 828-5022) or
- via a separate M12 connector if higher loads are required (Order-No. 828-5019).



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# Irinos IR-DIO

Connector type DSUB37



All digital in- & outputs and the I/O power supply are connected via a single 37-pin DSUB connector.

The state of each in- & output is signalled via a status LED.

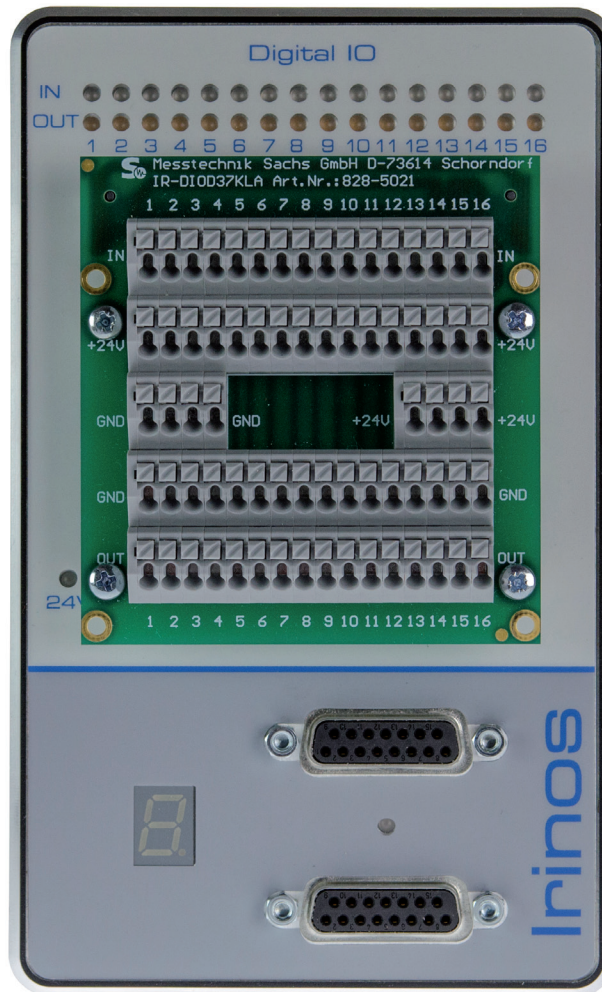


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# Irinos IR-DIO

Terminal block for DSUB connector type



An optional terminal block adapter allows direct wiring of I/Os and power supply to the Irinos-Box with DSUB37 connector type. The adapter is mounted with 4 screws (accessible from outside). Typically this solution is used in a switching cabinet.



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# Irinos IR-DIO

## Overload / short circuit protection

All digital outputs are protected against overload / short circuit. The respective output is deactivated automatically, if an overload situation occurs. Once the overload is gone, the output is activated automatically.

A self-recovering thermal fuse ensures that the total load of all outputs is limited to a safe operating condition.

## Switching levels

All in- & outputs are designed for high-side switching systems (PNP). The switching levels are similar to the IEC61131-2 standard.

## Labelling (M23)

Each M23 connector can be labelled via an optional label carrier. It is suitable for 8 plastic-labels, which are widely used in switch cabinet construction. They can be printed with many commercially available plastic-label printers.

## Galvanic Isolation

All digital in- & outputs are galvanically isolated from the internal logic and from the ILink communication.



# Irinos IR-DIO

## Specifications

### Digital Inputs

Number of inputs	16
Voltage range	0 .. 26.4 V DC
Switching levels	Similar to IEC61131-2: Low: 0 .. 5 V High: 10.8 .. 26.4 V
Isolation	Galvanic isolation to internal logic and ILink communication

### Digital Outputs

Number of outputs	16
Max. output power	0.7 A per channel Please note the maximum total current; see „I/O power supply“
Overload / short circuit protection	yes
Isolation	Galvanic isolation to internal logic and ILink communication

### I/O power supply via ILink / Type IR-DIO-...-SYSP

Output voltage	Input voltage of power supply minus voltage drop of thermo fuse. If 24.0 V DC power supply is used: min. 23.5 V, typically 23.9 V DC at an output current of 100 mA min. 22.5 V, typically 23.2 V DC at an output current of 1 A
Output current	max. 1 A in total
Overload protection	Self-resetting thermo fuse, nominal trip current 1.5 A @ 23°C / 1.1 A @ 50°C

### I/O power supply via separate power supply / Type IR-DIO-...-EXTP

Output voltage	Input voltage of power supply minus voltage drop of thermo fuse. If 24.0 V DC power supply is used: min. 23.5 V, typically 23.9 V DC at an output current of 100 mA min. 22.8 V, typically 23.5 V DC at an output current of 1 A min. 22.5 V, typically 23.3 V DC at an output current of 2.2 A
Output current	max. 2.2 A in total
Overload protection	Self-resetting thermo fuse, nominal trip current 3 A @ 23°C / 2.3 A @ 50°C



# Irinos IR-DIO

## Power supply of logic & ILink communication

Rated voltage	24 V DC $\pm$ 10 %
Reverse voltage protection	yes
Power consumption	< 3 watt plus power consumption of digital outputs for type IR-DIO-...- <b>SYSP</b> .
Coupling	galvanic isolation
Forwarding	If multiple Irinos-Boxes are used, the power-supply is forwarded via the ILink-Interface to all Irinos-Boxes (no separate power supply required).

Use an Irinos power supply for the Irinos system, e.g. IR-PU50.

## Casing

	Aluminium designer housing, black anodized, rear plate clear anodized, front plate with cover foil
Dimensions	160 x 98 x 33 mm (H x W x D)
Protection class	IP65 if appropriate connectors are used
Mounting (standard)	2 tapped brushed M4 on the rear side
Mounting options	<ul style="list-style-type: none"><li>o adaption for hat rail mounting</li><li>o adaption for aluminium profile 40mm, Item or similar</li><li>o adaption for front side mounting</li></ul>
Labelling	Optional label carrier for plastic labels type „Murrplastik ABB 17x9“ (order number Murrplastik: 86421020).

## Miscellaneous

Temperature range	operation: 0 - 50 °C / storage: 0 - 70 °C
Status indication	Numeric display showing box-number and/or error.
Expansion	System expansion up to 32 Irinos-Boxes via ILink-Interface. Combinable with other Irinos-Boxes, e.g. for inductive probes, incremental encoders, analog inputs, temperature measurement, etc.
Connection to PC	Standard ethernet. DLL available for easy integration into PC software (Windows based).



# Irinos IR-DIO

## Ordering information

Irinos-Boxes IR-DIO with digital in- & outputs		
Order-No.	Description	Status
828-5019	<b>IR-DIO-16-16-M23-SYSP-IL</b> 16 digital inputs & 16 digital outputs, M23 connectors, I/O power supply via ILink for moderate loads (no separate power supply required), protection class IP65 with appropriate connectors.	Available
828-5022	<b>IR-DIO-16-16-M23-EXTP-IL</b> 16 digital inputs & 16 digital outputs, M23 connectors, I/O power supply via M12 connector for higher loads (separate power supply required), protection class IP65 with appropriate connectors.	<b>Preferred type</b>
828-5080	<b>IR-DIO-16-16-D37M-SYSP-IL</b> 16 digital inputs & 16 digital outputs, DSUB37 connector, I/O power supply via ILink for moderate loads (no separate power supply required), protection class IP65 with appropriate connectors.	Available
828-5020	<b>IR-DIO-16-16-D37M-EXTP-IL</b> 16 digital inputs & 16 digital outputs, DSUB37 connector, I/O power supply via DSUB connector (separate power supply required), protection class IP65 with appropriate connectors.	<b>Preferred type</b>
828-5021	<b>Terminal block for IR-DIO-16-16-D37M-EXTP-IL</b> optional terminal block module	<b>Preferred type</b>
828-5078	Test adaptor for IR-DIO-16-16-D37M-... with 16 switches for simulation of the digital inputs and 16 LEDs as status display of the digital outputs. Only for test purposes!	Special type





# Irinos IR-DIO

Accessories labelling and mounting		
Order-No.	Description	Status
828-5040	<b>IR-MIPL-8-ABB179</b> Labelling carrier for 8 plastic labels. Only suitable for M23 type.	<b>Preferred type</b>
828-5081	<b>IR-MIPL-8-COLOR</b> Labelling carrier with 8 coloured labelling fields for engraving Only suitable for M23 type.	Available
828-5041	<b>IR-MHRM-1</b> Adapter for DIN rail mounting	<b>Preferred type</b>
828-5042	<b>IR-MFFM-1</b> Front-side mounting kit	<b>Preferred type</b>
828-5043	<b>IR-MITEM-40</b> Mounting bracket for aluminium profile 40mm (Item or similar)	<b>Preferred type</b>
828-5044	<b>IR-MWIP-40</b> Stand for aluminium profile 40mm (Item or similar)	Available



# Irinos IR-DIO

Please note: the maximum bus length of each Irinos system is 20m.

Accessories ILink connection cable between multiple Irinos boxes		
Order-No.	Description	Status
828-5055	ILink connection cable <b>IR-ILINK-002-IP40</b> Length 0,2 m, protection class IP40	<b>Preferred type</b>
828-5056	ILink connection cable <b>IR-ILINK-010-IP40</b> Length 1 m, protection class IP40	<b>Preferred type</b>
828-5057	ILink connection cable <b>IR-ILINK-020-IP40</b> Length 2 m, protection class IP40	Available
828-5058	ILink connection cable <b>IR-ILINK-030-IP40</b> Length 3 m, protection class IP40	<b>Preferred type</b>
828-5059	ILink connection cable <b>IR-ILINK-050-IP40</b> Length 5 m, protection class IP40	Available
828-5060	ILink connection cable <b>IR-ILINK-100-IP40</b> Length 10 m, protection class IP40	Available
828-5061	ILink connection cable <b>IR-ILINK-002-IP65</b> Length 0,2 m, protection class IP65	<b>Preferred type</b>
828-5062	ILink connection cable <b>IR-ILINK-010-IP65</b> Length 1 m, protection class IP65	Available
828-5063	ILink connection cable <b>IR-ILINK-020-IP65</b> Length 2 m, protection class IP65	Available
828-5064	ILink connection cable <b>IR-ILINK-030-IP65</b> Length 3 m, protection class IP65	Available
828-5065	ILink connection cable <b>IR-ILINK-050-IP65</b> Length 5 m, protection class IP65	Available
828-5066	ILink connection cable <b>IR-ILINK-100-IP65</b> Length 10 m, protection class IP65	Available
828-5079	ILink connection cable <b>IR-ILINK-150-IP65</b> Length 15 m, protection class IP65	Special type
828-5077	ILink connection cable <b>IR-ILINK-200-IP65</b> Length 20 m, protection class IP65	Special type

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Subject to change without notice.



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