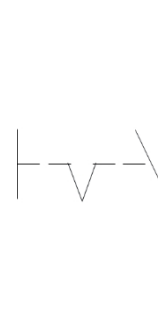
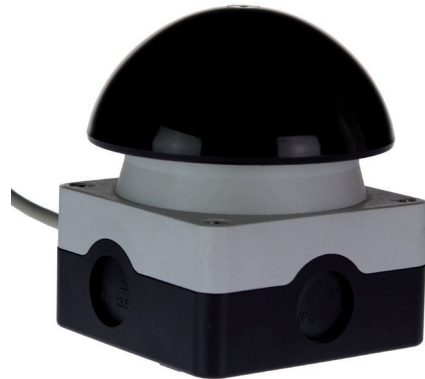


Irinos SC-DIO

Digital inputs/outputs
for the Irinos system



- 16 digital inputs & 16 digital outputs (positive-switching / PNP), e.g. for proximity switches, valves, start buttons, signal lamps, etc.
- Various connection options available (DSUB37, M23 or terminal blocks)
- Protection against overload and short circuits
- Parallel data transmission of input/output bits with the measured values from other Irinos boxes
- Can be cascaded with other Irinos boxes via the SCLink interface



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Irinos SC-DIO

Version with DSUB37 connector



In the DSUB variant, all inputs/outputs and the power supply are connected via a 37-pin DSUB connector.

The status of each input/output is indicated by a status LED. Power is supplied to the digital inputs/outputs either

- via the SCLink interface (item no. 828-3080) or
- if higher load currents are required or if the power supply needs to be isolated, via the DSUB connector (item no. 828-3020).

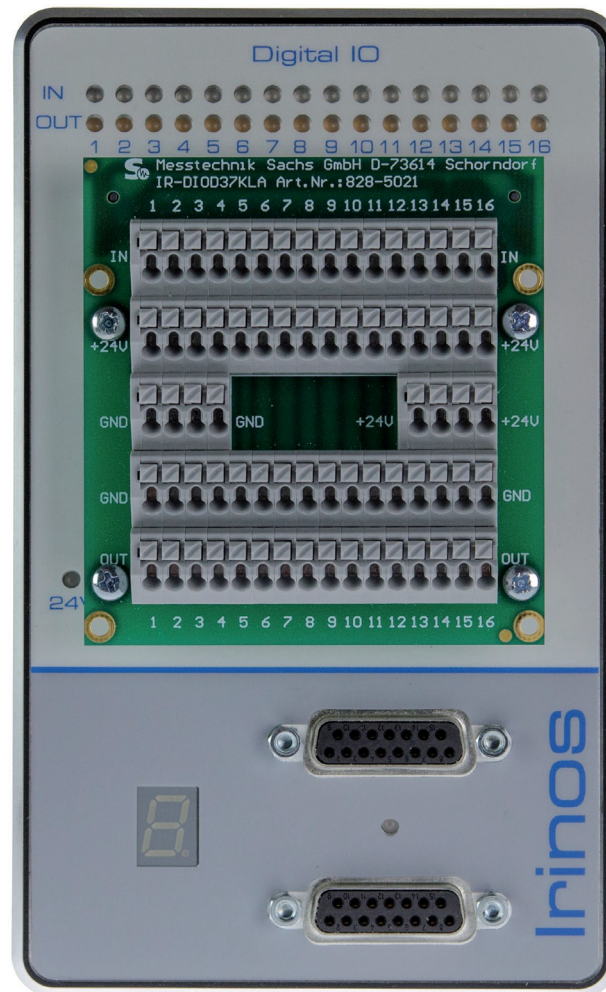


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Irinos SC-DIO

Terminal block adapter for DSUB version



An optional terminal block adapter enables the direct connection of individual wires to the Irinos box via a DSUB37 connector. The adapter is fitted from the outside and secured with four screws. This variant is typically used in a control cabinet.



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Irinos SC-DIO

M23 connector version



Illustration for
illustrative
purposes only

For M23 connectors, an adapter module is available for fitting onto I/O boxes with a 37-pin DSUB connector. The M23 connectors are suitable for decentralised I/O connection via connection modules. These are available from various manufacturers, e.g. MurrElektronik, Turck, Weidmüller, PhoenixContact, Erni, Escha.

Eight digital inputs are connected to each of the two M23 sockets. The same applies to the eight digital outputs.

Power is supplied to the digital inputs/outputs either

- via the SCLink interface or
- via an M12 connector if higher load currents are required or if isolation of the power supply is necessary.



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Irinos SC-DIO

Protection against overload / short circuit

All outputs are protected against overload and short circuit. Monitoring and shutdown are provided by a self-resetting thermal fuse between the 24 V supply and the inputs/outputs.

Switching levels

All inputs/outputs are positive-edging (PNP). The switching levels comply with IEC 61131-2.

Electrical isolation

The digital inputs/outputs are galvanically isolated from the internal logic and the SCLink communication.

In the version with an externally supplied I/O power supply (IR-DIO-16-16-xx-EXTP-xx), this is also isolated from the Irinos system's power supply. This is particularly relevant when it is necessary to switch off the I/O power supply whilst the Irinos system is to remain powered.



Irinos SC-DIO

Technical Specifications

Digital inputs

Number	16
Voltage range	0 to 26.4 V DC Voltage level In accordance with IEC 61131-2:
	Low: 0 to 5 V High: 10.8 .. 26.4 V
Input current	typically approx. 8 mA at 24 V.
Design	Electrically isolated from internal logic and SCLink communication, additional galvanic isolation of the I/O power supply on SC-DIO-...- EXTP models

Digital outputs

Number	16
Max. output current	Observe the maximum total current; see "I/O power supply"
Short-circuit protection	Yes
Design	Galvanically isolated from internal logic and SCLink communication

I/O power supply via SCLink / SC-DIO-...-SYSP variant

Output voltage	Actual voltage of the power supply minus the voltage drop across the thermal fuse. For a 24.0 V DC power supply: 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 total
Overload protection	Automatically resetting thermal fuse, rated trip current: 1.5 A @ 23°C / 1.1 A @ 50°C

Separate I/O power supply / SC-DIO-...-EXTP variant

Output voltage	Actual supply voltage minus the voltage drop across the thermal fuse. For a 24.0 V DC power supply: 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 for outputs 1–8 and 9–16.
Overload protection	Automatically resetting thermal fuse for each set of 8 outputs (1–8 / 9–16), rated trip current: 1.5 A @ 23°C / 1.1 A @ 50°C



Irinos SC-DIO

Power supply for logic & SCLink communication

Rated voltage	24 V DC $\pm$ 10 %
Reverse polarity protection	Yes
Power consumption	< 3 watts plus power consumption of the digital outputs when I/O is powered via SCLink (SC-DIO-...-SYSP).
Design	Galvanically isolated
Cascading	When cascading multiple Irinos boxes, the power is supplied via the SCLink interface (no separate power supply required).

The entire system is powered by a power supply unit from the Irinos range, e.g. IR-PU.

Housing

Design	Designer housing: black anodised aluminium, rear plate naturally anodised, front panel with front film
Dimensions	160 x 98 x 33 mm (H x W x D)
Protection rating	IP65 when plugged in, except for terminal block 828-5021. Suitable mating connectors are required to achieve protection class IP65.
Standard mounting	2 M4 threaded sockets on the rear
Mounting accessories	○ Adapter for top-hat rail mounting ○ Flange plate for quick-change mounting, e.g. on a steel plate. ○ Mounting bracket for 40 mm Item profile ○ Mounting stand for 40 mm Item profile
Labelling	Labelling option for M23 connectors via labelling holders (accessories) with standard Murrplastik ABB 17x9 labelling plates (Murrplastik order number: 86421020).

Miscellaneous

Temperature range	Operating: 0 – +50 °C / Storage: -20 – +70 °C
Status display	7-segment display for showing the box number or an error. Extension Easy daisy-chaining of 12 Irinos boxes via the SCLink interface. This allows expansion to up to 96 probes. Can be combined with other measurement inputs, e.g. inductive probes, incremental encoders, analogue inputs and temperature measurement.
PC communication	Ethernet. A DLL is available (Windows) for easy integration into PC software. Alternatively, access is possible via a Telnet-like interface.



Irinos SC-DIO

Ordering information

Irinos SC-DIO boxes with digital inputs/outputs

Item no.	Description
828-3080	SC-DIO-16-16-D37M-SYSP-IL 16 digital inputs/outputs each, connected via D-SUB connectors, I/O power supply via ILink for moderate loads (no separate power supply required),
828-3201	Adapter for connection via M23 connectors with internal power supply , compatible with 828-3080.
828-3020	SC-DIO-16-16-D37M-EXTP-IL 16 digital inputs/outputs each, connected via DSUB connectors, I/O power supply via D-SUB connectors for higher loads (separate power supply unit required),
828-3200	Adapter for connection via M23 connectors with external power supply , compatible with 828-3020.
828-5021	Terminal block connection for xx-DIO-16-16-D37M-.... plug-in terminal module
828-5078	Test adapter for xx-DIO-16-16-D37M-... with 16 switches for simulating the digital inputs and 16 LEDs for indicating the status of the digital outputs. For test purposes only and as a commissioning aid!

Accessories for labelling and mounting

Item no.	Description
828-5040	IR-MIPL-8-ABB179 Label holder for 8 ABB179 labels 828-5081 IR-MIPL-8-COLOR Labelling holder with 8 coloured labelling areas for laser/engraving labelling
828-5041	IR-MHRM-1 Mounting adapter for top-hat rail mounting
828-5042	IR-MFFM-1 Mounting flange for quick-change mounting 828-
5043	IR-MITEM-40 Mounting bracket for Item profile 40 mm
828-5044	IR-MWIP-40 Mounting stand for Item 40 mm profile



Irinos SC-

DIO

Accessories: Power supply unit (1 required per system)			
Type	Europe (Schuko plug)	USA / Mexico (NEMA)	India (Type D)
Power 30 W	828-5046	828-5100	828-5082
Power 80 W	828-5083		828-5088

Accessories: Ethernet cable	
Item no.	Description
828-5050	Ethernet cable IR-CETH-RJ45-M12-010 Length 1 m, Cat5e, 1 x RJ45, 1 x M12 SpeedCon D-
coded 828-5051	Ethernet cable IR-CETH-RJ45-M12-020 Length 2 m, Cat5e, 1 x RJ45, 1 x M12 SpeedCon D-
coded 828-5052	Ethernet cable IR-CETH-RJ45-M12-050 Length 5 m, Cat5e, 1 x RJ45, 1 x M12 SpeedCon D-
coded 828-5053	Ethernet cable IR-CETH-RJ45-M12-100 Length 10 m, Cat5e, 1 x RJ45, 1 x M12 SpeedCon D-
coded 828-5054	Ethernet cable IR-CETH-RJ45-M12-150 Length 15m, Cat5e, 1 x RJ45, 1 x M12 SpeedCon D-coded
828-5076	Ethernet cable IR-CETH-RJ45-M12-200 Length 20 m, Cat5e, 1 x RJ45, 1 x M12 SpeedCon D-coded



Irinos SC-DIO

The boxes are connected via the SCLink interface using ILink cables. **Please note the maximum total cable length (20m).**

Accessory: ILink connection cable for cascading multiple Irinos boxes

Item no.	Description
828-5055	ILink connection cable IR-ILINK-002-IP40 Length 0.2 m, protection class IP40
828-5056	ILink connection cable IR-ILINK-010-IP40 Length 1 m, protection class IP40
828-5057	ILink connection cable IR-ILINK-020-IP40 Length 2 m, protection class IP40
828-5058	ILink connection cable IR-ILINK-030-IP40 Length 3 m, protection class IP40
828-5059	ILink connection cable IR-ILINK-050-IP40 Length 5 m, protection class IP40
828-5060	ILink connection cable IR-ILINK-100-IP40 Length 10 m, protection class IP40
828-5061	ILink connection cable IR-ILINK-002-IP65 Length 0.2 m, protection class IP65
828-5062	ILink connection cable IR-ILINK-010-IP65 Length 1 m, protection class IP65
828-5063	ILink connection cable IR-ILINK-020-IP65 Length 2 m, protection class IP65
828-5064	ILink connection cable IR-ILINK-030-IP65 Length 3 m, protection class IP65
828-5065	ILink connection cable IR-ILINK-050-IP65 Length 5 m, protection class IP65
828-5066	ILink connection cable IR-ILINK-100-IP65 Length 10 m, protection class IP65
828-5079	ILink connection cable IR-ILINK-150-IP65 Length 15 m, protection class IP65
828-5077	ILink connection cable IR-ILINK-200-IP65 Length 20 m, protection class IP65

Unused SCLink sockets (D-sub sockets) and incremental encoder sockets on the Irinos boxes can be sealed to IP65 using the following protective cap:

Accessory: Protective cap for SCLink interface

Item no.	Description
828-7020	DSUB15 socket protective cap, IP65, screw-on

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