



IndraControl S67 – fast I/O system for cabinet-free automation

The IndraControl S67 enables cabinet-free installation near the machine and is suitable for use in harsh environments. The modular I/O modules provide for ultra-high flexibility and economic realization of customized machine concepts. Its high performance makes the IndraControl S67 ideal for the reliable acquisition of time-critical signals.

With IP67 protection, the IndraControl S67 is also very well suited to harsh industrial environments. The system is modular in design so that it can be optimally adapted to a wide range of applications; up to 64 I/O modules can be operated from a single fieldbus coupler. Highly accurate, synchronous acquisition and processing of signals ensure sufficient reserve capacity for motion control applications and fast signal acquisition. Comprehensive parameterization and diagnostic functions, fast, easy installation, and M12 and M8 connection technique round out the system.

Your benefits

- ▶ Extremely fast cycle times thanks to optimized data transmission
- ▶ Highly reliable operation under extreme ambient conditions
- ▶ Modular and individually extendable
- ▶ Extendable to 500 m per I/O station
- ▶ Flexible installation
- ▶ M12 and M8 connection technique in compact housing design
- ▶ Simple operation and application
- ▶ Comprehensive diagnostic options



IndraControl S67 – for reliable acquisition of time-critical signals directly at the machine

Fast, modular, and robust

- ▶ Reliable acquisition of time-critical signals
- ▶ Modular and individually extendable system structure
- ▶ High level of protection for application in harsh industrial environments



Fieldbus coupler



Fieldbus coupler – for connecting local I/O modules to a higher-level fieldbus system.

Digital I/O modules



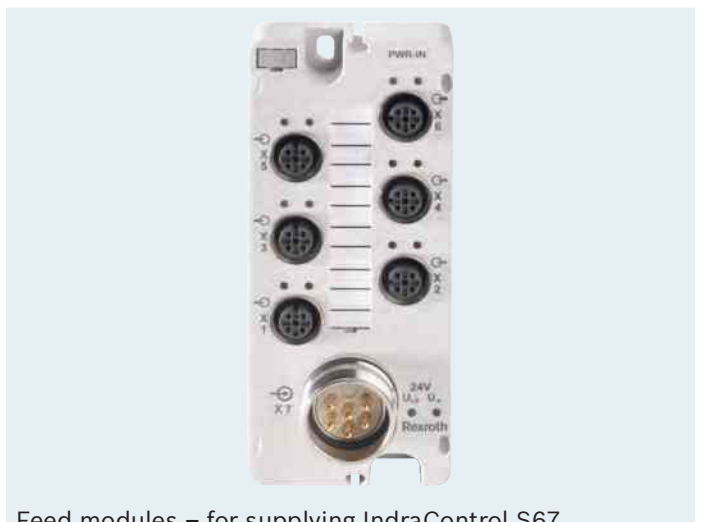
Digital I/O modules – for acquiring and outputting digital signals, e.g. for buttons, limit or proximity switches.

Analog I/O modules



Analog I/O modules – for acquiring and outputting analog signals for standard sensors, e.g. temperature or pressure sensors.

Feed modules



Feed modules – for supplying IndraControl S67 components for extensive overall extension of the system.



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Fieldbus coupler – technical data

| Technical data | S67-PB-BK-DI8-M8 | S67-PN-BK-DI8-M8 |
|---|--|--|
| Fieldbus coupler | | |
| Type | PROFIBUS | PROFINET IO |
| Connection type | M12 connectors, B-coded, 5-pin | M12 connectors, D-coded, 5-pin |
| Transmission speed | 12 Mbit/s (automatic recognition) | 100 Mbit/s |
| Transmission medium | Copper cable | Copper cable |
| Digital inputs | | |
| Number of inputs | 8 | 8 |
| Connection type | M8 connectors, A-coded, 3-pin | M8 connectors, A-coded, 3-pin |
| Connection technique | 2 to 3-wire | 2 to 3-wire |
| Input filter | Configurable | Configurable |
| Input characteristic | Type 1, acc. to IEC 61131-2 | Type 1, acc. to IEC 61131-2 |
| Signal voltage (0) | -30 to +5 V DC | -30 to +5 V DC |
| Signal voltage (1) | +11 to +30 V DC | +11 to +30 V DC |
| Input circuit | High-side switching | High-side switching |
| Input voltage | 24 V DC (-30 < U _N < +30 V DC) | 24 V DC (-30 < U _N < +30 V DC) |
| Input current | Typ. 2.8 mA | Typ. 2.8 mA |
| Cable length, unshielded | ≤ 30 m | ≤ 30 m |
| Module supply | | |
| Connection type | M12 connectors, A-coded, 4-pin | M12 connectors, A-coded, 4-pin |
| Current carrying capacity of supply connections | Max. 8 A (U _{LS} : 4 A, U _A : 4 A) | Max. 8 A (U _{LS} : 4 A, U _A : 4 A) |
| Supply voltage | Logic and sensor voltage U _{LS} | 24 V DC (-25 to +30%) |
| | Actuator voltage U _A | 24 V DC (-25 to +30%) |
| Supply current | Logic and sensor current I _{LS} | Typ. 45 mA + sensors (max. 400 mA) |
| | Actuator current I _A | 5 mA |
| Protection | Reverse polarity protection for U _{LS} + U _A Short-circuit protection for sensor supply | Reverse polarity protection for U _{LS} + U _A Short-circuit protection for sensor supply |
| System bus | | |
| Number of extendable modules | 63 | 63 |
| Connection type | M12 connectors, B-coded, 5-pin, shielded | M12 connectors, B-coded, 5-pin, shielded |
| Electrical isolation | | |
| Channel – channel | No | No |
| U _{LS} , U _A , system bus | 500 V DC each | 500 V DC each |
| Service interface | | |
| Type | USB | USB |
| Connection type | M8 connectors, 4-pin | M8 connectors, 4-pin |
| Configurable functions/digital inputs | | |
| Input filter (per channel) | 0.1/0.5/3/15/20 ms/filter off | 0.1/0.5/3/15/20 ms/filter off |
| Online simulation (per channel) | Lock/unlock; simulation value: 0/1 | Lock/unlock; simulation value: 0/1 |
| Diagnosis (per module) | Overload and short circuit (sensor supply); undervoltage (U _{LS} + U _A) | Overload and short circuit (sensor supply); undervoltage (U _{LS} + U _A) |
| Process image | | |
| Input process image | 244 bytes | 512 bytes |
| Output process image | 244 bytes | 512 bytes |
| Ambient conditions | | |
| Permissible temperature (operation) | -25 to +60°C | -25 to +60°C |
| Permissible relative humidity (operation) | 5 to 95%, no dewing | 5 to 95%, no dewing |
| Permissible air pressure (operation) | 795 to 1,080 hPa | 795 to 1,080 hPa |
| Mechanical data | | |
| Dimensions (W x H x D) | 75 x 117 x 35 mm | 75 x 117 x 35 mm |
| Dimensional drawing (see p. 201) | Type 1 | Type 1 |
| Weight | 330 g | 330 g |
| Vibration resistance | According to IEC 60068-2-6 | According to IEC 60068-2-6 |
| Shock resistance (temporary) | According to IEC 60068-2-27 | According to IEC 60068-2-27 |

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| Technical data | S67-S3-BK-DI8-M8 | S67-ET-BK-DI8-M8 |
|---|--|--|
| Fieldbus coupler | | |
| Type | sercos | EtherNet/IP |
| Connection type | M12 connectors, B-coded, 5-pin | M12 connectors, D-coded, 5-pin |
| Transmission speed | 12 Mbit/s (automatic recognition) | 10/100 Mbit/s |
| Transmission medium | Copper cable | Copper cable |
| Digital inputs | | |
| Number of inputs | 8 | 8 |
| Connection type | M8 connectors, A-coded, 3-pin | M8 connectors, 3-pin |
| Connection technique | 2 to 3-wire | 2 to 3-wire |
| Input filter | Configurable | Configurable |
| Input characteristic | Type 1, acc. to IEC 61131-2 | Type 1, acc. to IEC 61131-2 |
| Signal voltage (0) | -30 to +5 V DC | -30 to +5 V DC |
| Signal voltage (1) | +11 to +30 V DC | +15 to +30 V DC |
| Input circuit | High-side switching | High-side switching |
| Input voltage | 24 V DC (-30 < U _{IN} < +30 V DC) | 24 V DC (-30 < U _{IN} < +30 V DC) |
| Input current | Typ. 2.8 mA | Typ. 2.8 mA |
| Cable length, unshielded | ≤ 30 m | ≤ 30 m |
| Module supply | | |
| Connection type | M12 connectors, A-coded, 4-pin | M12 connectors, A-coded, 4-pin |
| Current carrying capacity of supply connections | Max. 8 A (U _{IS} : 4 A, U _A : 4 A) | Max. 8 A (U _{IS} : 4 A, U _A : 4 A) |
| Supply voltage | Logic and sensor voltage U _{IS} | 24 V DC (-25 to +30%) |
| | Actuator voltage U _A | 24 V DC (-25 to +30%) |
| Supply current | Logic and sensor current I _{IS} | Typ. 45 mA + sensors (max. 400 mA) |
| | Actuator current I _A | 5 mA |
| Protection | Reverse polarity protection for U _{IS} + U _A Short-circuit protection for sensor supply | Reverse polarity protection for U _{IS} + U _A Short-circuit protection for sensor supply |
| System bus | | |
| Number of extendable modules | 63 | 64 |
| Connection type | M12 connectors, B-coded, 5-pin, shielded | M12 connectors, B-coded, 5-pin, shielded |
| Electrical isolation | | |
| Channel – channel | No | No |
| U _{IS} , U _A , system bus | 500 V DC each | 500 V DC each |
| Service interface | | |
| Type | USB | USB |
| Connection type | M8 connectors, 4-pin | M8 connectors, 4-pin |
| Configurable functions/digital inputs | | |
| Input filter (per channel) | 0.1/0.5/3/15/20 ms/filter off | 0.1/0.5/3/15/20 ms/filter off |
| Online simulation (per channel) | Lock/unlock; simulation value: 0/1 | Lock/unlock; simulation value: 0/1 |
| Diagnosis (per module) | Overload and short circuit (sensor supply); undervoltage (U _{IS} + U _A) | Short circuit/wire break (sensor supply); undervoltage (U _{IS} + U _A) |
| Process image | | |
| Input process image | 244 bytes | 2048 bytes |
| Output process image | 244 bytes | 2048 bytes |
| Ambient conditions | | |
| Permissible temperature (operation) | -25 to +60°C | -25 to +60°C |
| Permissible relative humidity (operation) | 5 to 95%, no dewing | 5 to 95%, no dewing |
| Permissible air pressure (operation) | 795 to 1,080 hPa | 795 to 1,080 hPa |
| Mechanical data | | |
| Dimensions (W x H x D) | 75 x 117 x 35 mm | 75 x 35.7 x 117 |
| Dimensional drawing (see p. 201) | Type 1 | Type 1 |
| Weight | 330 g | 330 g |
| Vibration resistance | According to IEC 60068-2-6 | According to IEC 60068-2-6 |
| Shock resistance (temporary) | According to IEC 60068-2-27 | According to IEC 60068-2-27 |



Digital inputs – technical data

| Technical data | | S67-DI8-M8 |
|---|-----------------------------------|--|
| Digital inputs | | |
| Number of inputs | | 8 |
| Connection type | | M12 connectors, A-coded, 3-pin |
| Connection technique | | 2 to 3-wire |
| Input filter | | Configurable |
| Input characteristic | | Type 2, acc. to IEC 61131-2 |
| Signal voltage (0) | | -30 to +5 V DC |
| Signal voltage (1) | | +11 to +30 V DC |
| Input circuit | | High-side switching |
| Input voltage | | 24 V DC ($-30 < U_{IN} < +30$ V DC) |
| Input current | | Typ. 7.3 mA |
| Cable length, unshielded | | ≤ 30 m |
| Module supply | | |
| Connection type | | M12 connectors, A-coded, 4-pin |
| Current carrying capacity of supply connections | | Max. 8 A (U_{IS} : 4 A, U_A : 4 A) |
| Supply voltage | Logic and sensor voltage U_{IS} | 24 V DC |
| | Actuator voltage U_A | 24 V DC |
| Supply current | Logic and sensor current I_{IS} | Typ. 40 mA + sensors (max. 400 mA) |
| | Actuator current I_A | 5 mA |
| Protection | | Reverse polarity protection for $U_{IS} + U_A$ Short-circuit protection for sensor supply |
| System bus | | |
| Connection type | | M12 connectors, B-coded, 5-pin, shielded |
| Electrical isolation | | |
| Channel – channel | | No |
| U_{IS} , U_A , system bus | | 500 V DC each |
| Configurable functions | | |
| Input filter (per channel) | | 0.1/0.5/3/15/20 ms/filter off |
| Online simulation (per channel) | | Lock/unlock; simulation value: 0/1 |
| Diagnosis (per module) | | Overload and short circuit (sensor supply); undervoltage ($U_{IS} + U_A$) |
| Process image | | |
| Process data width | | 1 byte data + status |
| Ambient conditions | | |
| Permissible temperature (operation) | | -25 to +60°C |
| Permissible relative humidity (operation) | | 5 to 95%, no dewing |
| Permissible air pressure (operation) | | 795 to 1,080 hPa |
| Mechanical data | | |
| Dimensions (W x H x D) | | 50 x 117 x 35 mm |
| Dimensional drawing (see p. 201) | | Type 2 |
| Weight | | 230 g |
| Vibration resistance | | According to IEC 60068-2-6 |
| Shock resistance (temporary) | | According to IEC 60068-2-27 |



| Technical data | | S67-DI8-M12 |
|---|-----------------------------------|--|
| Digital inputs | | |
| Number of inputs | | 4 |
| Connection type | | M12 connectors, A-coded, 3-pin |
| Connection technique | | 2 to 3-wire |
| Input filter | | Configurable |
| Input characteristic | | Type 2, acc. to IEC 61131-2 |
| Signal voltage (0) | | -30 to +5 V DC |
| Signal voltage (1) | | +11 to +30 V DC |
| Input circuit | | High-side switching |
| Input voltage | | 24 V DC ($-30 < U_{IN} < +30$ V DC) |
| Input current | | Typ. 7.3 mA |
| Cable length, unshielded | | ≤ 30 m |
| Module supply | | |
| Connection type | | M12 connectors, A-coded, 4-pin |
| Current carrying capacity of supply connections | | Max. 8 A (U_{IS} : 4 A, U_A : 4 A) |
| Supply voltage | Logic and sensor voltage U_{IS} | 24 V DC |
| | Actuator voltage U_A | 24 V DC |
| Supply current | Logic and sensor current I_{IS} | Typ. 40 mA + sensors (max. 400 mA) |
| | Actuator current I_A | 5 mA |
| Protection | | Reverse polarity protection for $U_{IS} + U_A$ Short-circuit protection for sensor supply |
| System bus | | |
| Connection type | | M12 connectors, B-coded, 5-pin, shielded |
| Electrical isolation | | |
| Channel – channel | | No |
| U_{IS} , U_A , system bus | | 500 V DC each |
| Configurable functions | | |
| Input filter (per channel) | | 0.1/0.5/3/15/20 ms/filter off |
| Online simulation (per channel) | | Lock/unlock; simulation value: 0/1 |
| Diagnosis (per module) | | Overload and short circuit (sensor supply); undervoltage ($U_{IS} + U_A$) |
| Process image | | |
| Process data width | | 1 byte data + status |
| Ambient conditions | | |
| Permissible temperature (operation) | | -25 to +60°C |
| Permissible relative humidity (operation) | | 5 to 95%, no dewing |
| Permissible air pressure (operation) | | 795 to 1,080 hPa |
| Mechanical data | | |
| Dimensions (W x H x D) | | 50 x 117 x 35 mm |
| Dimensional drawing (see p. 201) | | Type 2 |
| Weight | | 230 g |
| Vibration resistance | | According to IEC 60068-2-6 |
| Shock resistance (temporary) | | According to IEC 60068-2-27 |



Digital outputs – technical data

| Technical data | S67-DO8-M8 | S67-DO8-M12 |
|---|--|--|
| Digital outputs | | |
| Number of outputs | 8 | 8 |
| Connection type | M8 connectors, 3-pin | M12 connectors, 3-pin |
| Connection technique | 2 to 3-wire | 2 to 3-wire |
| Output voltage | $\leq U_A$ | $\leq U_A$ |
| Output current (per channel) | 0.5 A (max. 0.6 A), short-circuit/overload proof (thermal disconnection) | 0.5 A (max. 0.6 A), short-circuit/overload proof (thermal disconnection) |
| Voltage drop against U_A at 500 mA | Max. 0.2 V DC | Max. 0.2 V DC |
| Output current (module) | Max. 4 A | Max. 4 A |
| Switching-on of overload circuit | Configurable | Configurable |
| Leak current when off | Typ. 150 μ A | Typ. 150 μ A |
| Output circuit | High-side switching | High-side switching |
| Module supply | | |
| Connection type | M12 connectors, A-coded, 4-pin | M12 connectors, A-coded, 4-pin |
| Current carrying capacity of supply connections | Max. 8 A (U_{LS} : 4 A, U_A : 4 A) | Max. 8 A (U_{LS} : 4 A, U_A : 4 A) |
| Supply voltage | Logic and sensor voltage U_{LS} | 24 V DC |
| | Actuator voltage U_A | 24 V DC |
| Supply current | Logic and sensor current I_{LS} | Typ. 45 mA (only logic part) |
| | Actuator current I_A | Typ. 25 mA + actuators |
| Protection | Reverse polarity protection for $U_{LS} + U_A$ Short-circuit protection for sensor supply | Reverse polarity protection for $U_{LS} + U_A$ Short-circuit protection for sensor supply |
| Information on selecting the actuator | | |
| Rise time from 0 to 1 | Typ. 40 μ s (resistive load) | Typ. 40 μ s (resistive load) |
| Rise time from 1 to 0 | Typ. 50 μ s (resistive load) | Typ. 50 μ s (resistive load) |
| Cable length (unshielded) | ≤ 30 m | ≤ 30 m |
| System bus | | |
| Connection type | M12 connectors, B-coded, 5-pin, shielded | M12 connectors, B-coded, 5-pin, shielded |
| Electrical isolation | | |
| Channel – channel | No | No |
| U_{LS} , U_A , system bus | 500 V DC each | 500 V DC each |
| Configurable functions | | |
| Substitute value strategy (per channel) | Switch substitute value/ hold last value | Switch substitute value/ hold last value |
| Substitute value (per channel) | 0/1 (default: 0) | 0/1 (default: 0) |
| Online simulation (per channel) | Lock/unlock; simulation value: 0/1 | Lock/unlock; simulation value: 0/1 |
| Diagnosis | Per channel | Overload and short circuit (actuators) |
| | Per module | Undervoltage ($U_{LS} + U_A$) |
| Process image | | |
| Process data width | 1 byte data + status | 1 byte data + status |
| Ambient conditions | | |
| Permissible temperature (operation) | -25 to +60°C | -25 to +60°C |
| Permissible relative humidity (operation) | 5 to 95%, no dewing | 5 to 95%, no dewing |
| Permissible air pressure (operation) | 795 to 1,080 hPa | 795 to 1,080 hPa |
| Mechanical data | | |
| Dimensions (W x H x D) | 50 x 117 x 35 mm | 50 x 117 x 35 mm |
| Dimensional drawing (see p. 201) | Type 2 | Type 2 |
| Weight | 230 g | 230 g |
| Vibration resistance | According to IEC 60068-2-6 | According to IEC 60068-2-6 |
| Shock resistance (temporary) | According to IEC 60068-2-27 | According to IEC 60068-2-27 |



| Technical data | S67-DO8-M8-2A | S67-DO8-M12-2A |
|---|---|---|
| Digital outputs | | |
| Number of outputs | 8 | 8 |
| Connection type | M8 connectors, 3-pin | M12 connectors, 3-pin |
| Connection technique | 2 to 3-wire | 2 to 3-wire |
| Output voltage | $\leq U_A$ | $\leq U_A$ |
| Output current (per channel) | 2.0 A (max. 2.4 A), short-circuit/overload proof (thermal disconnection) | 0.5 A (max. 0.6 A), short-circuit/overload proof (thermal disconnection) |
| Voltage drop against U_A at 500 mA | Max. 0.2 V DC | Max. 0.2 V DC |
| Output current (module) | Max. 8 A | Max. 8 A |
| Switching-on of overload circuit | Configurable | Configurable |
| Leak current when off | Typ. 150 μ A | Typ. 150 μ A |
| Output circuit | High-side switching | High-side switching |
| Module supply | | |
| Connection type | M12 connectors, A-coded, 4-pin | M12 connectors, A-coded, 4-pin |
| Current carrying capacity of supply connections | Max. 4.5 A each (U_{LS} : 45 mA, U_A : 4 A) | Max. 8 A (U_{LS} : 4 A, U_A : 4 A) |
| Supply voltage | Logic and sensor voltage U_{LS} | 24 V DC |
| | Actuator voltage U_A | 24 V DC |
| Supply current | Logic and sensor current I_{LS} | Typ. 45 mA (only logic part) |
| | Actuator current I_A | Typ. 55 mA + actuators |
| Protection | Reverse polarity protection for $U_{LS} + U_A$ Short-circuit protection for sensor supply | Reverse polarity protection for $U_{LS} + U_A$ Short-circuit protection for sensor supply |
| Information on selecting the actuator | | |
| Rise time from 0 to 1 | Typ. 30 μ s (resistive load) | Typ. 40 μ s (resistive load) |
| Rise time from 1 to 0 | Typ. 50 μ s (resistive load) | Typ. 50 μ s (resistive load) |
| Cable length (unshielded) | ≤ 30 m | ≤ 30 m |
| System bus | | |
| Connection type | M12 connectors, B-coded, 5-pin, shielded | M12 connectors, B-coded, 5-pin, shielded |
| Electrical isolation | | |
| Channel – channel | No | No |
| U_{LS} , U_A , system bus | 500 V DC each | 500 V DC each |
| Configurable functions | | |
| Substitute value strategy (per channel) | Switch substitute value/ hold last value | Switch substitute value/ hold last value |
| Substitute value (per channel) | 0/1 (default: 0) | 0/1 (default: 0) |
| Online simulation (per channel) | Lock/unlock; simulation value: 0/1 | Lock/unlock; simulation value: 0/1 |
| Diagnosis | Per channel | Overload and short circuit (actuators) |
| | Per module | Undervoltage ($U_{LS} + U_A$) |
| Process image | | |
| Process data width | 1 byte data + status | 1 byte data + status |
| Ambient conditions | | |
| Permissible temperature (operation) | -25 to +60°C | -25 to +60°C |
| Permissible relative humidity (operation) | 5 to 95%, no dewing | 5 to 95%, no dewing |
| Permissible air pressure (operation) | 795 to 1,080 hPa | 795 to 1,080 hPa |
| Mechanical data | | |
| Dimensions (W x H x D) | 50 x 117 x 35 mm | 50 x 117 x 35 mm |
| Dimensional drawing (see p. 201) | Type 2 | Type 2 |
| Weight | 230 g | 230 g |
| Vibration resistance | According to IEC 60068-2-6 | According to IEC 60068-2-6 |
| Shock resistance (temporary) | According to IEC 60068-2-27 | According to IEC 60068-2-27 |



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Analog inputs – technical data

| Technical data | S67-AI4-U/I-M12 |
|---|---|
| Analog inputs | |
| Number of inputs | 4 |
| Connection type | M12 connectors, A-coded, 5-pin |
| Type of signal | Currents and voltages (differential inputs) |
| Connection technique | 2 to 4-wire connection (external shield via knurled nut) |
| Measuring range | 0 to 20 mA, 4 to 20 mA, ± 20 mA, 0 to 10 V, ± 10 V |
| Cable length, shielded | ≤ 30 m |
| Analog value creation | |
| Resolution | 16 bits |
| Conversion time | 1 ms |
| Sampling delay | 1 ms (module), $< 100 \mu\text{s}$ (channel/channel) |
| Sampling repeat time | 1 ms |
| Failures and errors | |
| Max. measuring error at 25°C | Approx. $\pm 0.2\%$ of the measuring range |
| Temperature error | Approx. $\pm 0.01\%$ of the measuring range/K |
| Module supply | |
| Connection type | M12 connectors, A-coded, 4-pin |
| Logic, sensor, and actuator supply voltage U_{LS} , U_A | 24 V DC |
| Logic and sensor supply current I_{LS} | Typ. 45 mA + sensors (max. 400 mA) |
| Actuator current I_A | 5 mA |
| Protection | Reverse polarity protection for U_{LS} + U_A Short-circuit protection for sensor supply |
| System bus | |
| Connection type | M12 connectors, B-coded, 5-pin, shielded |
| Electrical isolation | |
| Channel – channel | No |
| U_{LS} , U_A , system bus | 500 V DC each |
| Configurable functions | |
| Measuring range (per channel) | 0 to 20 mA, 4 to 20 mA, ± 20 mA, 0 to 10 V, ± 10 V |
| Limiting values (per channel) | Lock/unlock, Min1/Min2/Max1/Max2 |
| Input filter (per channel) | Low pass |
| Sampling duration (per channel) | 1, 2, 4, 8 ms |
| Interference frequency suppression (per channel) | 50/60 Hz |
| Online simulation (per channel) | Lock/unlock, simulation value |
| Electrical isolation | |
| Diagnosis (per module) | Short circuit (sensor power supply); undervoltage (U_{LS} + U_A); wire break (4 to 20 mA); limit value violation; overrange/measuring range underflow |
| Process image | |
| Process data width | 8 bytes data + status |
| Ambient conditions | |
| Permissible temperature (operation) | -25 to +60°C |
| Permissible relative humidity (operation) | 5 to 95%, no dewing |
| Permissible air pressure (operation) | 795 to 1,080 hPa |
| Mechanical data | |
| Dimensions (W x H x D) | 35 x 177 x 50 mm |
| Dimensional drawing (see p. 201) | Type 2 |
| Weight | 230 g |
| Vibration resistance | According to IEC 60068-2-6 |
| Shock resistance (temporary) | According to IEC 60068-2-27 |

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| Technical data | S67-AI4-RTD-M12 |
|---|--|
| Analog inputs | |
| Number of inputs | 4 |
| Connection type | M12 connectors, A-coded, 5-pin |
| Type of signal | Resistance thermometers, resistors, potentiometers |
| Connection technique | 2 to 4-wire connection (external shield via knurled nut) |
| Signal measuring range | Resistance thermometer: PT100, PT200, PT500, PT1000, NI200, NI120, NI1000 Resistors: 1 k Ω and 4 k Ω Potentiometer: 0 to 100% setting angle (for 1.25 k Ω and 5 k Ω) Free characteristics: PT 3000, NTC etc. |
| Temperature range | PT: -200 to +850°C, NI: -60 to +250°C |
| Cable length, shielded | \leq 30 m |
| Analog value creation | |
| Resolution | 16 bits |
| Input filter | 16.7 Hz, 33 Hz, 50 Hz, 60 Hz, 120 Hz, 250 Hz, 500 Hz |
| Failures and errors | |
| Max. measuring error at 25°C | \pm 0.1% of the measuring range |
| Temperature error | \pm 0.001% of the measuring range/K |
| Module supply | |
| Connection type | M12 connectors, A-coded, 4-pin |
| Logic, sensor, and actuator supply voltage U_{LS} , U_A | 24 V DC |
| Logic and sensor supply current I_{LS} | Typ. 45 mA + sensors (max. 400 mA) |
| Actuator current I_A | 5 mA |
| Protection | Reverse polarity protection for U_{LS} + U_A Short-circuit protection for sensor supply |
| System bus | |
| Connection type | M12 connectors, B-coded, 5-pin, shielded |
| Electrical isolation | |
| Channel – channel | No |
| U_{LS} , U_A , system bus | 500 V DC each |
| Configurable functions | |
| Measuring range (per channel) | PT100/PT200/PT500/PT1000, NI100/NI120/NI1000 1.25 k Ω /5 k Ω , 0 to 100% setting angle (for 1.25 k Ω and 5 k Ω PT 3000, NTC, own characteristics) |
| Connection type | 2/3/4-wire |
| Limiting values (per channel) | Lock/unlock, Min1/Min2/Max1/Max2 |
| Input filter (per channel) | 16.7 Hz, 33 Hz, 50 Hz, 60 Hz, 120 Hz, 250 Hz, 500 Hz |
| Electrical isolation | |
| Diagnosis (per module) | Undervoltage (U_{LS} + U_A); wire break; limit value violation; overrange/measuring range underflow |
| Process image | |
| Process data width | 8 bytes data + status |
| Ambient conditions | |
| Permissible temperature (operation) | -25 to +60°C |
| Permissible relative humidity (operation) | 5 to 95%, no dewing |
| Permissible air pressure (operation) | 795 to 1,080 hPa |
| Mechanical data | |
| Dimensions (W x H x D) | 35 x 177 x 50 mm |
| Dimensional drawing (see p. 201) | Type 2 |
| Weight | 230 g |
| Vibration resistance | According to IEC 60068-2-6 |
| Shock resistance (temporary) | According to IEC 60068-2-27 |

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Analog outputs – technical data

| Technical data | S67-AO4-U/I-M12 |
|---|--|
| Analog outputs | |
| Number of outputs | 4 |
| Connection type | M12 connectors, A-coded, 5-pin |
| Type of signal | Currents and voltages (differential inputs) |
| Connection technique | 2 to 4-wire connection (external shield via knurled nut) |
| Measuring range | 0 to 20 mA, 4 to 20 mA, ± 20 mA, 0 to 10 V, ± 10 V |
| Load impedance | ≤ 500 k Ω (current); ≥ 5 k Ω (voltage) |
| Maximum capacitive load (at voltage outputs) | 10 nF |
| Maximum inductive load (at current outputs) | 1 mH |
| Cable length, shielded | ≤ 30 m |
| Analog value creation | |
| Resolution | 15 bits (unipolar), 16 bits (bipolar) |
| Monotony | Yes |
| Cycle time | Approx. 1 ms |
| Recovery time for resistive, inductive and capacitive loads | Approx. 1 ms |
| Failures and errors | |
| Max. measuring error at 25°C | Approx. $\pm 0.2\%$ of the measuring range |
| Overshooting | Approx. $\pm 0.05\%$ of the measuring range |
| Output ripple | Approx. $\pm 0.02\%$ of the measuring range |
| Crosstalk between the channels at DC voltage and AC voltage 50 Hz and 60 Hz | -90 dB |
| Short-circuit protection | Electronic |
| Nominal output current | Max. 1 A |
| Module supply | |
| Connection type | M12 connectors, A-coded, 4-pin |
| Logic, sensor, and actuator supply voltage U_{LS} , U_A | 24 V DC |
| Logic and sensor supply current I_{LS} | Typ. 28 mA (only logic part) |
| Actuator current I_A | 34 mA + actuators |
| Protection | Reverse polarity protection for U_{LS} + U_A Short-circuit protection for sensor supply |
| System bus | |
| Connection type | M12 connectors, B-coded, 5-pin, shielded |
| Electrical isolation | |
| Channel – channel | No |
| U_{LS} , U_A , system bus | 500 V DC each |
| Configurable functions | |
| Measuring range (per channel) | 0 to 20 mA, 4 to 20 mA, ± 20 mA, 0 to 10 V, ± 10 V |
| Substitute value strategy (per channel) | Switch substitute value/hold last value |
| Substitute value (per channel) | 0 mA or 0 V (default: 0 mA or 0 V) |
| Online simulation (per channel) | Lock/unlock, simulation value |
| Diagnosis (per module) | Short circuit (voltage) or wire break (current), actuator supply undervoltage (U_{LS} + U_A) |
| Process image | |
| Process data width | 8 bytes data + status |
| Ambient conditions | |
| Permissible temperature (operation) | -25 to +60°C |
| Permissible relative humidity | 5 to 95%, no dewing |
| Permissible air pressure (operation) | 795 to 1,080 hPa |
| Mechanical data | |
| Dimensions (W x H x D) | 50 x 117 x 35 mm |
| Dimensional drawing (see p. 201) | Type 2 |
| Weight | 230 g |
| Vibration resistance | According to IEC 60068-2-6 |
| Shock resistance (temporary) | According to IEC 60068-2-27 |

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Power divider – technical data

| Technical data | S67-PWR-IN-M12 |
|--|---|
| Power divider | |
| Connection type | M23 connectors, 6-pin |
| Supply voltage | |
| Logic and sensor voltage U_{LS} | 24 V DC (-25 to +30%) |
| Actuator voltage U_A | 24 V DC (-25 to +30%) |
| Logic and sensor supply current I_{LS} | Typ. 4 mA |
| Actuator current I_A | Typ. 4 mA |
| Supply outputs | |
| Number of outputs | 6 |
| Connection type | M12 connectors, A-coded, 4-pin |
| Current carrying capacity, connector | Max. 8 A (U_{LS} : 4 A, U_A : 4 A) |
| Current carrying capacity, module | Max. 24 A (U_{LS} : max. 8 A, U_A : max. 16 A) |
| Short-circuit protection | No |
| Electrical isolation | |
| $U_{LS} - U_A$ | 500 V AC |
| Ambient conditions | |
| Permissible temperature (operation) | -25 to +60°C |
| Permissible relative humidity | 5 to 95%, no dewing |
| Permissible air pressure (operation) | 795 to 1,080 hPa |
| Mechanical data | |
| Dimensions (W x H x D) | 50 x 117 x 35 mm |
| Dimensional drawing (see p. 201) | Type 2 |
| Weight | 240 g |
| Vibration resistance | According to IEC 60068-2-6 |
| Shock resistance (temporary) | According to IEC 60068-2-27 |



IndraControl S67 – ordering data

| IndraControl S67 ordering data | |
|---|--------------------------------|
| Description | Type code |
| IndraControl S67 PROFIBUS coupler with 8 digital inputs 24 V DC (8 x M8) | S67-PB-BK-DI8-M8 |
| IndraControl S67 PROFINET bus coupler with 8 digital inputs 24 V DC (8 x M8) | S67-PN-BK-DI8-M8 |
| IndraControl S67 sercos bus coupler with 8 digital inputs 24 V DC (8 x M8) | S67-S3-BK-DI8-M8 |
| IndraControl S67 EtherNet/IP bus coupler with 8 digital inputs 24 V DC (8 x M8) | S67-ET-BK-DI8-M8 |
| IndraControl S67 digital input module, 8 inputs M8, 24 V DC | S67-DI8-M8 |
| IndraControl S67 digital input module, 8 inputs M12 (4 x M12, two inputs per connector), 24 V DC | S67-DI8-M12 |
| IndraControl S67 digital input module, 8 inputs M8, 24 V DC, NPN-switching | S67-DI8-M8-NPN |
| IndraControl S67 digital input module, 8 inputs M12 (4 x M12, two inputs per connector), 24 V DC, NPN-switching | S67-DI8-M12-NPN |
| IndraControl S67 digital output module, 8 outputs M8, 24 V DC, 0.5 A | S67-DO8-M8 |
| IndraControl S67 digital output module, 8 outputs M12 (4 x M12, two outputs per connector), 24 V DC, 0.5 A | S67-DO8-M12 |
| IndraControl S67 digital output module, 8 outputs M8, 24 V DC, 2.0 A | S67-DO8-M8-2A |
| IndraControl S67 digital output module, 8 outputs M12 (4 x M12, two outputs per connector), 24 V DC, 2.0 A | S67-DO8-M12-2A |
| IndraControl S67 digital output module, 8 outputs M8, 24 V DC, 0.5 A, NPN-switching | S67-DO8-M8-NPN |
| IndraControl S67 digital output module, 8 outputs M12 (4 x M12, two outputs per connector), 24 V DC, 0.5 A, NPN-switching | S67-DO8-M12-NPN |
| IndraControl S67 analog input module, 4 inputs M12, 0-20 mA, 4-20 mA, ± 20 mA, 0-10 V, ± 10 V | S67-AI4-U/I-M12 |
| IndraControl S67 analog input module, 4 inputs M12, resistance thermometer, resistors, potentiometer | S67-AI4-RTD-M12 |
| IndraControl S67 analog output module, 4 outputs M12 0-20 mA, 4-20 mA, ± 20 mA, 0-10 V, ± 10 V | S67-AO4-U/I-M12 |
| IndraControl S67 power supply module (1 x M23/6 x M12 connection) | S67-PWR-IN-M12 |
| Ordering data for accessories | |
| Description | Type code |
| Cable | See interconnection technology |
| System bus cable, M12 socket, M12 plug, available lengths 0.20/0.30/0.50/1/2/5/10 m | RKB0041/0xx,x |
| System bus cable, M12 socket, M12 plug, any length | RKB0041/000,0 |
| System bus terminating connector, B-coded, axial | RBS0020 |
| Carrier rail adapter for fieldbus couplers | SUP-M01-S67-0001 |
| Carrier rail adapter for I/O modules | SUP-M01-S67-0002 |
| Profile adapter for fieldbus couplers | SUP-M01-S67-0003 |
| Profile adapter for I/O modules | SUP-M01-S67-0004 |
| Spacer | SUP-M01-S67-0005 |
| Marker strips for fieldbus couplers and I/O modules | SUP-M01-S67-0006 |
| Ordering data for documentation | |
| Description | Type code |
| Application manual, IndraControl S67 | DOK-CONTRL-S67*****-APxx-DE-P |

xxx = cable length in meters

Technical information and data sheets for Rexroth Inline are available from <http://www.boschrexroth.de/mediadirectory>



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