

System SLIO

| CurrentList | Manual

HB300 | | CurrentList | en | 26-40

System SLIO Current consumption



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1 General

1.1 About this manual

Objective and contents

This manual lists the maximum current consumption of the periphery modules on the backplane bus.

- The manual is targeted at users with good basic knowledge in automation technology.
- The manual does not replace sufficient basic knowledge of automation technology or sufficient familiarity with the specific product.
- The manual consists of chapters. Each chapter describes a completed topic.
- For guidance, the manual provides:
 - An overall table of contents at the beginning of the manual
 - References with pages numbers

Documentation

In the context of the use of the pertinent Yaskawa product, the manual is to be made accessible to the pertinent qualified personnel in:

- Project engineering
- Installation department
- Commissioning
- Operation

Icons and headings

Important passages in the text are highlighted by following icons and headings:



DANGER

- Immediate danger to life and limb of personnel and others.
- Non-compliance will cause death or serious injury.



CAUTION

- Hazardous situation to life and limb of personnel and others. Non-compliance may cause slight injuries.
- This symbol is also used as warning of damages to property.



NOTICE

- Designates a possibly harmful situation.
- Non-compliance can damage the product or something in its environment.



Supplementary information and useful tips.

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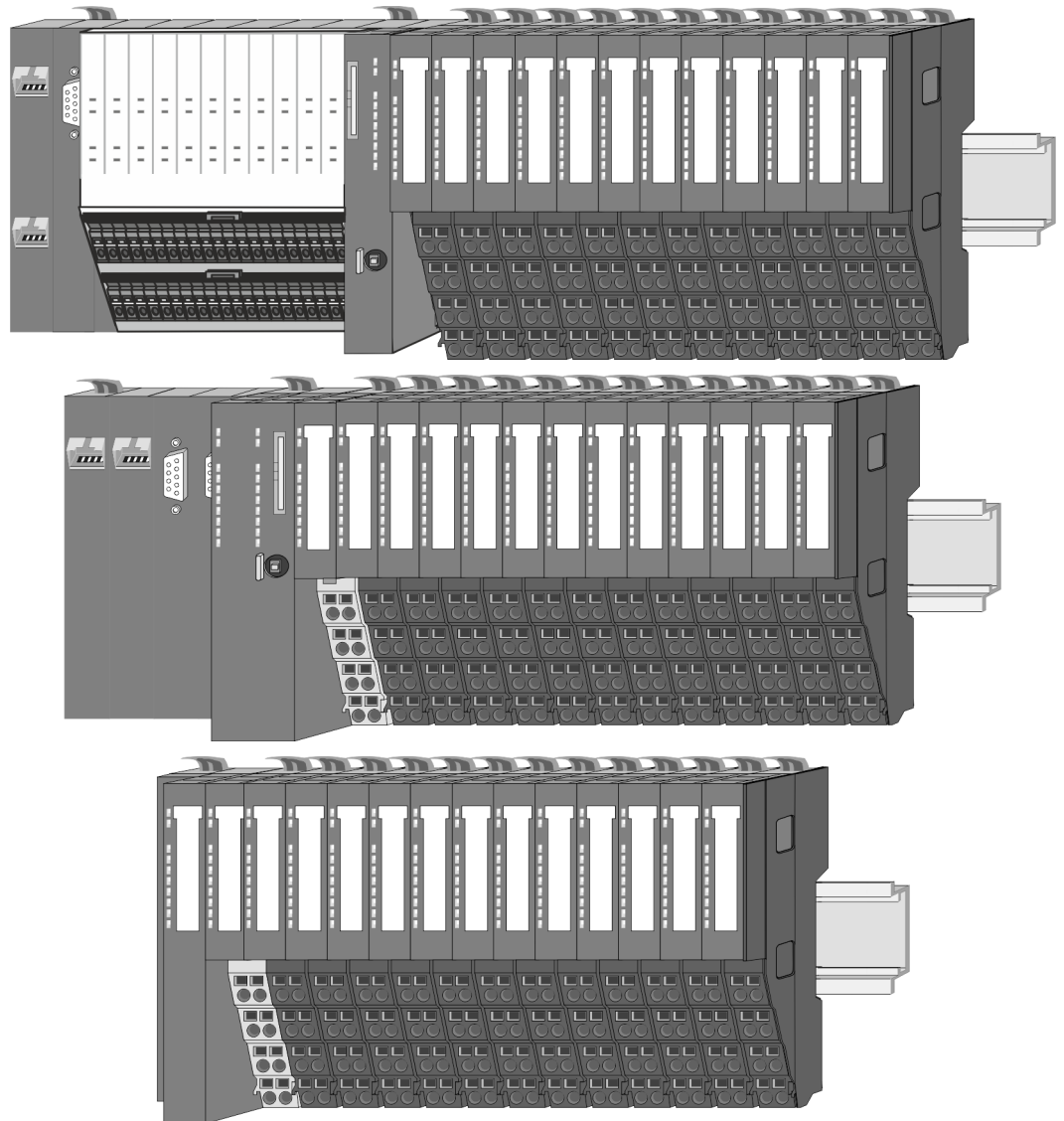
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2 Basics

2.1 Overview

The System SLIO is a modular automation system for assembly on a 35mm profile rail. By means of the periphery modules with 2, 4, 8 and 16 channels this system may properly be adapted matching to your automation tasks. The wiring complexity is low, because the supply of the DC 24V power section supply is integrated to the backplane bus and defective modules may be replaced with standing wiring. By deployment of the power modules in contrasting colors within the system, further isolated areas may be defined for the DC 24V power section supply, respectively the electronic power supply may be extended with 2A.



2.2 Components

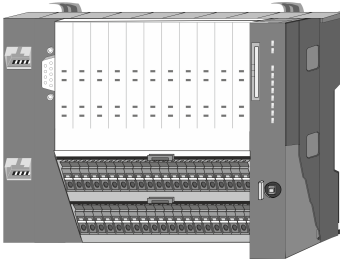
- CPU (head module)
- Bus coupler (head module)
- Line extension
- 8x periphery modules
- 16x periphery modules
- Power modules
- Accessories



CAUTION

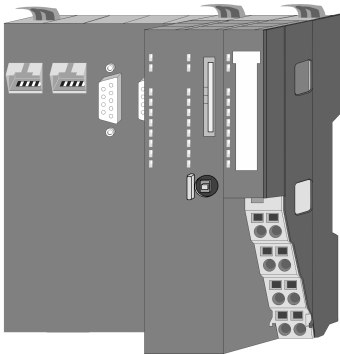
Only Yaskawa modules may be combined. A mixed operation with third-party modules is not allowed!

CPU 01xC



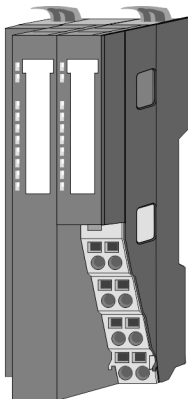
With the CPU 01xC electronic, input/output components and power supply are integrated to one casing. In addition, up to 64 periphery modules of the System SLIO can be connected to the backplane bus. As head module via the integrated power module for power supply CPU electronic and the I/O components are supplied as well as the electronic of the periphery modules, which are connected via backplane bus. To connect the power supply of the I/O components and for DC 24V power section supply of via backplane bus connected periphery modules, the CPU has removable connectors. By installing of up to 64 periphery modules at the backplane bus, these are electrically connected, this means these are assigned to the backplane bus, the electronic modules are power supplied and each periphery module is connected to the DC 24V power section supply.

CPU 01x



With this CPU 01x, CPU electronic and power supply are integrated to one casing. As head module, via the integrated power module for power supply, CPU electronic and the electronic of the connected periphery modules are supplied. The DC 24V power section supply for the linked periphery modules is established via a further connection of the power module. By installing of up to 64 periphery modules at the backplane bus, these are electrically connected, this means these are assigned to the backplane bus, the electronic modules are power supplied and each periphery module is connected to the DC 24V power section supply.

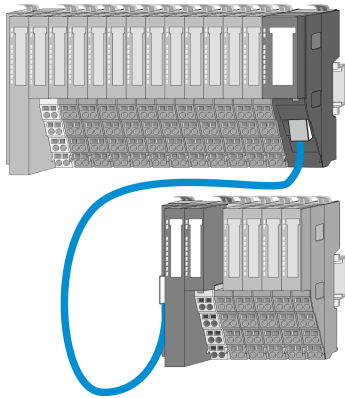
Bus coupler



With a bus coupler bus interface and power module is integrated to one casing. With the bus interface you get access to a subordinated bus system. As head module, via the integrated power module for power supply, bus interface and the electronic of the connected periphery modules are supplied. The DC 24V power section supply for the linked periphery modules is established via a further connection of the power module. By installing of up to 64 periphery modules at the bus coupler, these are electrically connected, this means these are assigned to the backplane bus, the electronic modules are power supplied and each periphery module is connected to the DC 24V power section supply.

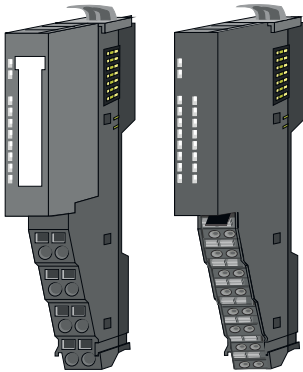
Components

Line extension



In the System SLIO there is the possibility to place up to 64 modules in on line. By means of the line extension you can divide this line into several lines. Here you have to place a line extension MainDevice at each end of a line and the subsequent line has to start with a line extension SubDevice. MainDevice and SubDevice are to be connected via a special connecting cable. In this way, you can divide a line on up to 5 lines. Depending on the line extension, the max. number of pluggable modules at the System SLIO bus is decreased accordingly. To use the line extension no special configuration is required.

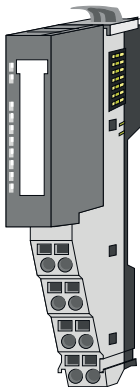
Periphery modules



The periphery modules are available in the following 2 versions, whereby of each the electronic part can be replaced with standing wiring:

- 8x periphery module for a maximum of 8 channels.
- 16x periphery module for a maximum of 16 channels.

Power module



In the System SLIO the power supply is established by power modules. These are either integrated to the head module or may be installed between the periphery modules. Depending on the power module isolated areas of the DC 24V power section supply may be defined respectively the electronic power supply may be extended with 2A. For better recognition the colour of the power modules are contrasting to the periphery modules.

3 System SLIO - Current consumptions

Power consumption at backplane bus

The current consumption values indicate the maximum current requirement of the respective System SLIO modules from the backplane bus power supply. For the planning of a System SLIO station, the power consumption of all modules used must be added. The calculated total current consumption must not exceed the available backplane bus power supply. The available current on the backplane bus depends on the power supply components used. If the permissible load is exceeded, correct operation cannot be guaranteed.



Maximum current drain at backplane bus

- CPU, bus coupler: 3 A
- Power module 007-1AB10: 2 A
- 061-1BA00 Line extension SubDevice - version 1: 2 A
- 061-1BA01 Line extension SubDevice - version 2: 3 A

Below you will find a list of the System SLIO periphery modules and their current consumption on the backplane bus.

DI	Digital input	Current consumption
021-1BB00	SM 021 - DI 2xDC 24 V	65 mA
021-1BB10	SM 021 - DI 2xDC 24 V, 2 µs...3 ms	100 mA
021-1BB50	SM 021 - DI 2xDC 24 V, NPN	65 mA
021-1BB70	SM 021 - DI 2xDC 24 V, ETS	100 mA
021-1BD00	SM 021 - DI 4xDC 24 V	65 mA
021-1BD10	SM 021 - DI 4xDC 24 V, 2 µs...3 ms	100 mA
021-1BD40	SM 021 - DI 4xDC 24 V, 3 wire	65 mA
021-1BD50	SM 021 - DI 4xDC 24 V, NPN	65 mA
021-1BD70	SM 021 - DI 4xDC 24 V, ETS	100 mA
021-1BD80	SM 021 - DI 4xDC 24 V, ETS, NPN	32 mA
021-1BF00	SM 021 - DI 8xDC 24 V	65 mA
021-1BF01	SM 021 - DI 8xDC 24 V, 0.5 ms	35 mA
021-1BF50	SM 021 - DI 8xDC 24 V, NPN	65 mA
021-1BF51	SM 021 - DI 8xDC 24 V, 0.5 ms, NPN	40 mA
021-1BH00	SM 021 - DI 16xDC 24 V	35 mA
021-1DF00	SM 021 - DI 8xDC 24 V, Diagnosis	60 mA
021-1DF50	SM 021 - DI 8xDC 24 V, Diagnosis, NPN	53 mA
021-1SD00	SM 021 - SDI 4xDC 24 V, PROFIsafe	95 mA
021-1SD10	SM 021 - SDI 4xDC 24 V, FSoE	95 mA
DO	Digital output	Current consumption
022-1BB00	SM 022 - DO 2xDC 24 V, 0.5 A	70 mA
022-1BB20	SM 022 - DO 2xDC 24 V, 2 A	70 mA
022-1BB50	SM 022 - DO 2xDC 24 V, 0.5 A, NPN	70 mA
022-1BB70	SM 022 - DO 2xDC 24 V, 0.5 A, ETS	105 mA
022-1BB90	SM 022 - DO 2xDC 24 V, 0.5 A, PWM	105 mA
022-1BD00	SM 022 - DO 4xDC 24 V, 0.5 A	75 mA
022-1BD20	SM 022 - DO 4xDC 24 V, 2 A	75 mA
022-1BD50	SM 022 - DO 4xDC 24 V, 0.5 A, NPN	75 mA
022-1BD70	SM 022 - DO 4xDC 24 V, 0.5 A, ETS	105 mA
022-1BD80	SM 022 - DO 4xDC 24 V, 0.5 A, ETS, NPN	105 mA

DO	Digital output	Current consumption
022-1BF00	SM 022 - DO 8xDC 24 V, 0.5 A	80 mA
022-1BF01	SM 022 - DO 8xDC 24 V, 0.5 A	50 mA
022-1BF50	SM 022 - DO 8xDC 24 V, 0.5 A, NPN	80 mA
022-1BH00	SM 022 - DO 16xDC 24 V, 0.5 A	35 mA
022-1BH50	SM 022 - DO 16xDC 24 V, 0.5 A, NPN	60 mA
022-1DF00	SM 022 - DO 8xDC 24 V, 0.5 A, Diagnosis	70 mA
022-1HB10	SM 022 - DO 2xRelais DC 30 V/AC 230 V, 3 A	120 mA
022-1HD10	SM 022 - DO 4xRelais DC 30 V/AC 230 V, 1.8 A	120 mA
022-1SD00	SM 022 - SDO 4xDC 24 V, 0.5 A, PROFIsafe	75 mA
022-1SD10	SM 022 - SDO 4xDC 24 V, 0.5 A, FSoE	75 mA
AI	Analog input	Current consumption
031-1BB10	SM 031 - AI 2x12Bit, 0(4)...20 mA, isolated	50 mA
031-1BB30	SM 031 - AI 2x12Bit, 0...10 V	80 mA
031-1BB40	SM 031 - AI 2x12Bit, 0(4)...20 mA	80 mA
031-1BB60	SM 031 - AI 2x12Bit, 0(4)...20 mA, Sensor	50 mA
031-1BB70	SM 031 - AI 2x12Bit, ± 10 V	50 mA
031-1BB90	SM 031 - AI 2x16Bit, TC	85 mA
031-1BD30	SM 031 - AI 4x12Bit, 0...10 V	75 mA
031-1BD40	SM 031 - AI 4x12Bit, 0(4)...20 mA	75 mA
031-1BD70	SM 031 - AI 4x12Bit, ± 10 V	55 mA
031-1BD80	SM 031 - AI 4x16Bit, R/RTD	85 mA
031-1BF60	SM 031 - AI 8x12Bit, 0(4)...20 mA	70 mA
031-1BF74	SM 031 - AI 8x12Bit, ± 10 V	70 mA
031-1CA20	SM 031 - AI 1x16(24)Bit, DMS	55 mA
031-1CB30	SM 031 - AI 2x16Bit, 0...10 V	60 mA
031-1CB40	SM 031 - AI 2x16Bit, 0(4)...20 mA	60 mA
031-1CB70	SM 031 - AI 2x16Bit, ± 10 V	60 mA
031-1CD30	SM 031 - AI 4x16Bit, 0...10 V	65 mA
031-1CD35	SM 031 - AI 4x16Bit, 0...10 V	65 mA
031-1CD40	SM 031 - AI 4x16Bit, 0(4)...20 mA	65 mA
031-1CD45	SM 031 - AI 4x16Bit, 0(4)...20 mA	65 mA
031-1CD70	SM 031 - AI 4x16Bit, ± 10 V	65 mA
031-1CF90	SM 031 - AI 8x16Bit, TC	80 mA
031-1LB90	SM 031 - AI 2x16Bit, TC	55 mA
031-1LD80	SM 031 - AI 4x16Bit, R/RTD	55 mA
031-1PA00	SM 031 - AI1x 3Ph 230/400 V, 1 A	60 mA
031-1PA10	SM 031 - AI1x 3Ph 230/400 V, 5 A	60 mA
AO	Analog output	Current consumption
032-1BB30	SM 032 - AO 2x12Bit, 0...10 V	85 mA
032-1BB40	SM 032 - AO 2x12Bit, 0(4)...20 mA	85 mA
032-1BB70	SM 032 - AO 2x12Bit, ± 10 V	60 mA
032-1BD30	SM 032 - AO 4x12Bit, 0...10 V	90 mA
032-1BD40	SM 032 - AO 4x12Bit, 0(4)...20 mA	90 mA
032-1BD70	SM 032 - AO 4x12Bit, ± 10 V	60 mA
032-1CB30	SM 032 - AO 2x16Bit, 0...10 V	60 mA
032-1CB40	SM 032 - AO 2x16Bit, 0(4)...20 mA	60 mA

AO	Analog output	Current consumption
032-1CB70	SM 032 - AO 2x16Bit, ± 10 V	60 mA
032-1CD30	SM 032 - AO 4x16Bit, 0...10 V	65 mA
032-1CD40	SM 032 - AO 4x16Bit, 0(4)...20 mA	65 mA
032-1CD70	SM 032 - AO 4x16Bit, ± 10 V	65 mA
CP	Communication processor	Current consumption
040-1BA00	CP 040 - RS232	110 mA
040-1CA00	CP 040 - RS422/485	125 mA
042-1IO00	CP 042 - IO-Link Master	32 mA
FM	Function module	Current consumption
050-1BA00	FM 050 - Counter DC 24 V, 1x32Bit	75 mA
050-1BA10	FM 050 - Counter DC 5 V, differential, 1x32Bit	75 mA
050-1BB00	FM 050 - Counter DC 24 V, 2x32Bit	75 mA
050-1BB30	FM 050 - Counter DC 24 V, eco 2x32Bit	75 mA
050-1BB40	FM 050 - Frequency measurement, 2x24Bit	35 mA
050-1BS00	FM 050 - Function, SSI	85 mA
054-1BA00	FM 054 - Motion, 1xStepper 24 V, 1.5 A	50 mA
054-1CB00	FM 054 - Motion, 2xDC Motion 24 V, 1.5 A	50 mA
054-1DA00	FM 054 - Motion, 1xPulse train	50 mA
054-2BA10	FM 054 - Motion, 1xStepper DC 24...48 V, 5 A	100 mA