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Digital expansion modules

Digital expansion module DIM 75x



Characteristics and benefits

- Expansion modules for CPU 762 and CPU 85x
- Max 240 additional digital inputs per CPU.
- Reduction of the wiring costs, easy and fast installation.
- Connecting of detectors and consumers over front side pluggable screw terminals.
- Compact size.
- Signalling of all I/O channels on the front side.
- Fast installation by snapping on a standard mounting rail.
- Easy exchange of the modules in case of service work without necessity to disconnect every single wire.
- Easy to program with the CAP 1131 tool.

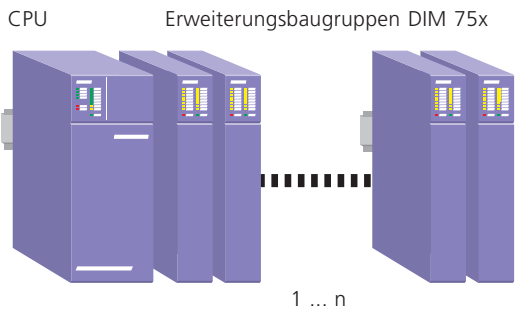
Function

DIM 75x with digital inputs

The modules DIM 75x are expansion modules for the CPU 762 and CPU 85x and serve for the collecting and display of digital input signals and are equipped with 16 channels for 24 Vdc signals each. The status of the input signals and the operation status of the module are indicated by leads arranged on the front side.

The modules detect the control signals from the system and transmit them to the CPU 75x.

To install the module it is snapped on a support rail and the connector to the previous module is plugged in.



Digital input modules	DIM 751	DIM 752
Digital inputs	16	14 (+2 encoder inputs)
Input indicator	Green LED	Green LED
Input voltage US	24 Vdc	24 Vdc
Power cons. logic circuitry typ. (System bus)	150 mW	150 mW
Fast counter for $f_{max.} = 25 \text{ kHz}$	no	yes
Operation modes	–	Event counter up/down Incremental encoder connection with detection of sense of rotation

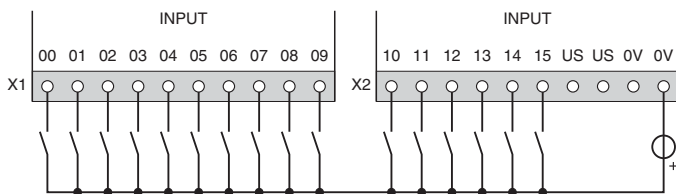
Potential separation		
I ↔ Logic	yes	yes
I ↔ I	common ground	common ground

General		
Ambient temperature (operation)	0 ... +55 °C	0 ... +55 °C
Connection technique	see chapter 9	see chapter 9
Protection mode	IP 20	IP 20
Dimensions (W x H x D)	30 x 181 x 132 mm	30 x 181 x 132 mm
Weight	350 g	350 g

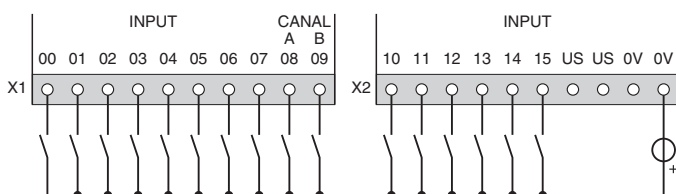
Ordering data		
Article number	44110100	44110104

Detailed information in system manual article number 43930129

Connection DIM 751



connection DIM 752



Digital expansion modules

Digital expansion module DOM 75x



Characteristics and benefits

- Expansion modules for CPU 762 and CPU 85x.
- Max 240 additional digital outputs per CPU.
- Reduction of the wiring costs, easy and fast installation.
- Connecting of detectors and consumers over front side pluggable screw terminals.
- Compact size.
- Signalling of all I/O channels on the front side.
- Fast installation by snapping on a standard mounting rail.
- Easy exchange of the modules in case of service work without necessity to disconnect every single wire.
- Easy to program with the CAP 1131 tool.

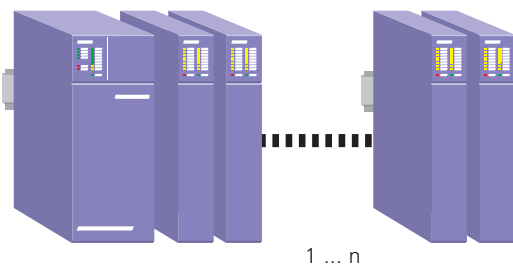
Function

DOM 75x with digital outputs

The modules DOM 75x are expansion modules for the 762 and CPU 85x and serve for the collecting and display of digital output signals and are equipped with 16 channels for 24 Vdc signals each. The status of the output signals and the operation status of the module are indicated by leads arranged on the front side.

To install the module it is snapped on a support rail and the connector to the previous module is plugged in.

CPU Erweiterungsbaugruppen DOM 75x



Digital output modules	DOM 751	DOM 752
Digital outputs	16	16
Output indicator	Orange LED	Orange LED
Supply voltage US	24 Vdc	24 Vdc
Power cons. logic circuitry typ. (System bus)	150 mW	150 mW
Output current	0,5 A	2 A
Total load	8 A	12 A
Protective circuit	Protection diode	Protection diode

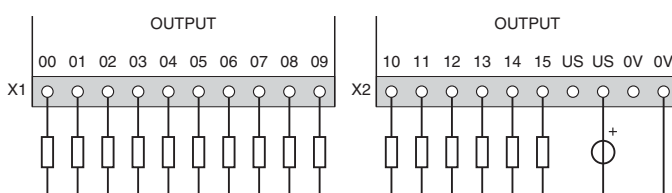
Potential separation		
O ↔ Logic	yes	yes
O ↔ O	common ground	common ground

General		
Ambient temperature (operation)	0 ... +55 °C	0 ... +55 °C
Connection technique	see chapter 9	see chapter 9
Protection mode	IP 20	IP 20
Dimensions (W x H x D)	30 x 181 x 132 mm	30 x 181 x 132 mm
Weight	380 g	380 g

Ordering data		
Article number	44110101	44110102

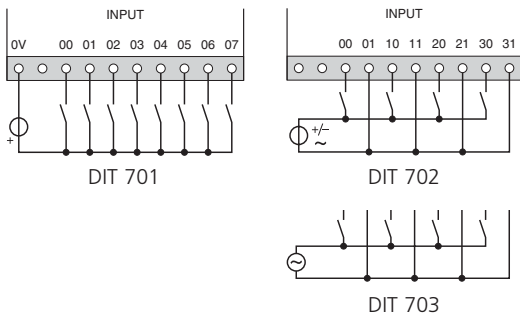
Detailed information in system manual article number 43930129

Connection



Digital expansion modules

Input modules DIT 701 / 702 / 703



Characteristics and benefits

- Expansion module for the CPU family 72x and CAN bus coupler DDC, DIC and DOC.
- Max. 48 resp. 56 additional digital inputs at one bus node.
- Reduction of the wiring costs, easy and fast installation.
- Connection technology with integrated pluggable spring cage terminals. Spring terminal blocks are also available as an option.
- 1-wire, 2-wire, 3-wire or 4-wire technique on request.
- Additional potential terminals as option.
- Fast installation by snapping on a standard mounting rail.
- Easy exchange of the modules in case of service work without necessity to disconnect every single wire.
- Easy to program with the CAP 1131 tool.
- Labelling strips.

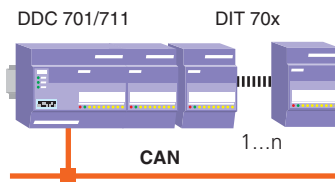
Function

DIT 70x with digital inputs

The expansion modules DIT 70x are designed for signal voltages 0 to 24 Vdc, 12 to 48 Vac/Vdc and 115 to 230 Vac.

The modules collect binary control signals from the system and transmit them to the CPU or to a CAN coupler.

To install the module it is snapped on a support rail and the connector to the previous module is plugged in.



Detailed information in system manual article number 43930129

Technical data	DIT 701	DIT 702	DIT 703
Digital inputs	8	4	4
Display	Green LED	Green LED	Green LED
Input voltage US	24 Vdc (typ. 6 mA)	12 ... 48 Vac/Vdc (typ. 18 mA)	115 ... 230 Vac (typ. 1,5...3,5 mA)
General			
Expandable	yes	yes	yes
Ambient temperature (operation)	0 ... +55 °C	0 ... +55 °C	0 ... +55 °C
Connection technique	see chapter 9	see chapter 9	see chapter 9
Protection mode	IP 40	IP 40	IP 40
Dimensions (W x H x D)	55 x 85 x 58 mm	55 x 85 x 58 mm	55 x 85 x 58 mm
Weight	120 g	120 g	120 g
Potential separation			
I ↔ Logic, CAN	yes	yes	yes (reinforced isol.)
I ↔ I	no	yes	yes (simple isol.)
Ordering data			
Article number	44120004	44120005	44120006

Digital expansion modules

Output modules DOT 701 / 702 / 703



Characteristics and benefits

- Expansion module for the CPU family 72x and CAN bus coupler DDC, DIC and DOC.
- Max. 48 resp. 56 additional digital outputs at one bus node.
- Reduction of the wiring costs, easy and fast installation.
- Connection technology with integrated pluggable spring cage terminals. Spring terminal blocks are also available as an option.
- 1-wire, 2-wire, 3-wire or 4-wire technique on request.
- Additional potential terminals as option.
- Fast installation by snapping on a standard mounting rail.
- Easy exchange of the modules in case of service work without necessity to disconnect every single wire.
- Easy to program with the CAP 1131 tool.
- Labelling strips.

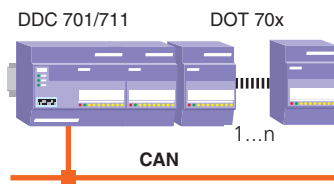
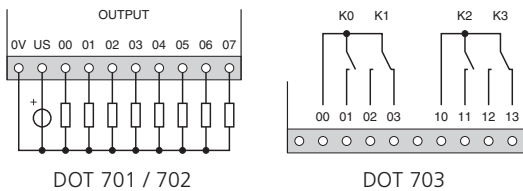
Function

DOT 70x with digital outputs

The expansion modules DOT 701/702 are designed for signal voltages 0 to 24 Vdc / 0,5 A or 2 A. The expansion module type DOT 703 is equipped with 4 relays 230 VAC / 5 A.

The modules collect binary control signals from the system and transmit them to the CPU or to a CAN coupler.

To install the module it is snapped on a support rail and the connector to the previous module is plugged in.



Detailed information in system manual article number 43930129

Technical data	DOT 701	DOT 702	DOT 703
Digital outputs	8	8	4
Display	Orange LED	Orange LED	Orange LED
Output current	0,5 A (24 Vdc)	1...2 A (24 Vdc)	5 A (230 Vac)

General	DOT 701	DOT 702	DOT 703
Expandable	yes	yes	yes
Ambient temperature (operation)	0 ... +55 °C	0 ... +55 °C	0 ... +55 °C
Connection technique	see chapter 9	see chapter 9	see chapter 9
Protection mode	IP 40	IP 40	IP 40
Dimensions (W x H x D)	55 x 85 x 58 mm	55 x 85 x 58 mm	55 x 85 x 58 mm
Weight	140 g	150 g	150 g

Potential separation	DOT 701	DOT 702	DOT 703
O ↔ Logic, CAN	yes	yes	yes (reinforced isol.)
O ↔ O	no	no	yes (simple isol.)

Ordering data	DOT 701	DOT 702	DOT 703
Article number	44120010	44120011	44120012

Digital expansion modules

Input/output module DDT 701



Characteristics and benefits

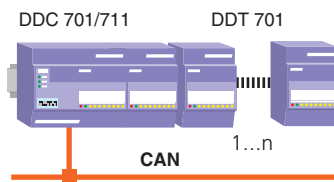
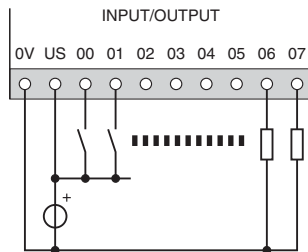
- Expansion module for the CPU 72x and CAN bus coupler DDC 7xx.
- 8 bi-directional inputs resp. outputs.
- Reduction of the wiring costs, easy and fast installation.
- Connection technology with integrated pluggable spring cage terminals. Spring terminal blocks are also available as an option.
- 1-wire, 2-wire, 3-wire or 4-wire technique on request.
- Additional potential terminals as option.
- Fast installation by snapping on a standard mounting rail.
- Easy exchange of the modules in case of service work without necessity to disconnect every single wire.
- Easy to program with the CAP 1131 tool.
- Labelling strips.

Function

DDT 701 with digital inputs

The expansion module DDT 701 is designed for signal voltages 0 to 24 Vdc and output currents up to 0,5 A.

To install the module it is snapped on a support rail and the connector to the previous module is plugged in.



DDT 701**Bidirectional I/O's
configured as input****8**

Input voltage	0 ... 24 Vdc
Limits	0 ... +30 Vdc
for signal = 0	< +5 Vdc
for signal = 1	> +14 Vdc
Input impedance typ.	3,9 kW
Input current for signal = 1 typ.	6 mA (24 Vdc)
Input delay time typ.	
Input filter	0,6 ms
settable under software control	5,6 ms
Potential separation	
I ↔ Logic	yes
I ↔ I	no

**Bidirectional I/O's
configured as output****8**

Supply voltage (US)	+24 Vdc
Limits	+18 ... +30 Vdc
Output current for signal = 1 max.	0,5 A
Total loading	4 A
Min. switching current	100 μA
Switching rate	
Resistive load	100 Hz
Inductive load	2 Hz
Open circuit level	
Signal = 0	max. 1.5 Vdc
Signal = 1	18 ... 30 Vdc
Potential separation	
O ↔ Logic	yes
O ↔ O	no

General data

Power consumption typ.	200 mW
Connecting technique	se chapter 9
Protection mode	IP 40
Ambient temperature (operation)	0 ... +55 °C
Dimensions (W x H x D)	55 x 85 x 58 mm
Weight	180 g

Ordering data

Article number	44120009
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Detailed information in system manual article number 43930129

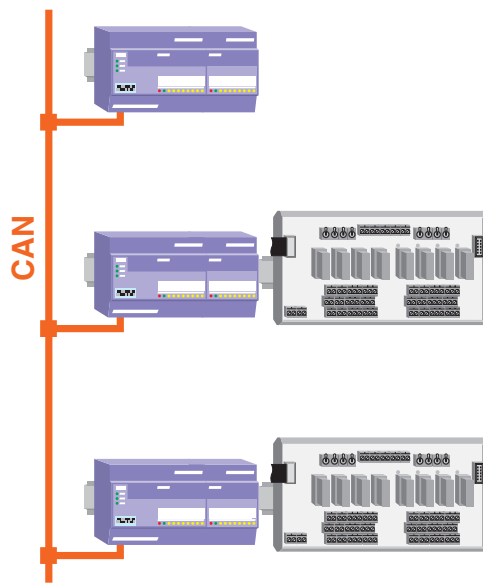
Digital expansion modules

Output module DOT 705-MR



Characteristics and benefits

- Expansion module for the CPU 72x and CAN bus coupler DDC 7xx.
- Relay module with 8 relays for connection on MOBI bus for 16 A.
- Plugable relays for high peak currents (120 A short time).
- Use in house installations to switch charges with 230 Vac nominal voltage, in particular lamps with high input current.
- Possibility for manual operation of the relays.
- Designed for a continuous contact current of 16 A and a peak current (20 ms) of 120 A (only normally closed).
- The control ensues over the MOBI2, galvanically separated.
- Easy wiring thanks to 3-stage screw terminals.



Function DOT 705-MR

Switching of charges with 230 Vac nominal current as e.g. lamps with high input current.

The module is connected to the module bus and controlled as a DOT 701, e.g. there are 8 outputs at disposal.

The relays are power supplied with 24 Vdc by the module US.

The MOBI2 controls 8 opto-couplers which control again the relay drivers. Over an optional toggle switch the relays can also be manually controlled.

Depending on the application a relay test allowing an easy check of the function of the module and the connected systems is required.

Depending on the application the module can be equipped with normally closed or changer relays.

Additionally the user is free to work with relays of any particular manufacturer. To allow this proceeding there are four variants at disposal:

The DOT 705-MR is equipped with relays RP3SL (Siemens) and toggle switches for the relay test.

To install the module it is snapped on a support rail and the connector to the previous module is plugged in.

Detailed information in system manual article number 43930129

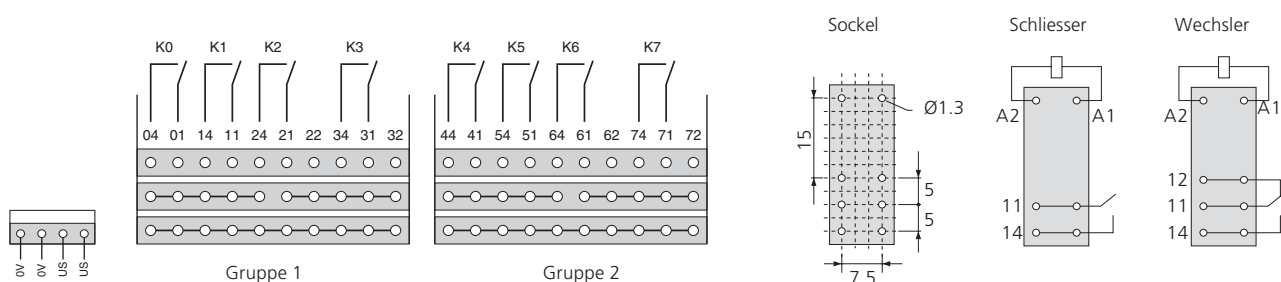
Technical data	DOT 705-MR
Digital outputs	8 normally open (default equipment)
Output type	Relay
Switching voltage max.	250 Vac
Contact current max.	16 A / 250 Vac (bei $\cos j = 1$)
Min. switching current	100 mA / 12 V
Power consumption Logic typ.	200 mW
Supply voltage US	24 Vdc
Inductive spike suppr.	no
Relay type	RP3SL (Siemens)
Max. switching rate	
with load	10/min
without load	1200/min
Switching frequency relays	
Mechanical life expectancy	$>30 \times 10^6$ switchings
Contact life expectancy	
at 12A, 250Vac, $\cos j = 1$	3×10^5 switchings
at 2500W, 230Vac Halogen lamp	$>10^4$ switchings
at 1000W, 250Vac Glow lamp	$2,3 \times 10^5$ switchings
at 3000W, 250Vac Glow lamp	$3,6 \times 10^4$ switchings
at 1500VA, Fluorescent lamp 163mF	10^4 switchings
Output indicator (Relay active)	Orange LED

Potential separation	
Output circuit ↔ Logic	yes (reinforced isolation, 6,5 mm)
Output circuit ↔ Output circuit	yes (simple isolation, 3 mm)
Output circuits:	
Group 1 ↔ Group 2	yes (reinforced isolation, 6,5 mm)

General	
Expandable	yes
Ambient temperature (operation)	0 ... +55 °C
Connection technique	Screw terminals
Protection mode	IP 00 (open module)
Dimensions approx. (W x H x D)	ca. 220 x 125 x 80 mm
Weight	570 g

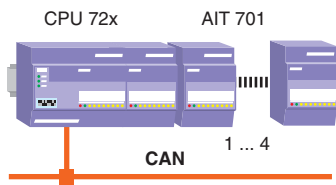
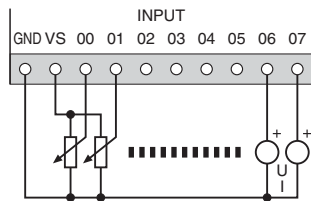
Ordering data	Article number
DOT 705-MR	44120091 (with relay / with switch)

Connection



Analog expansion modules

Input modules AIT 701 and AIT 704



Characteristics and benefits

- Flexible expansion for CPU 72x and CAN bus coupler DDc 7xx.
- Eight grounded analog inputs per module with 10-bit or 12-bit resolution
- Inputs either in voltage values 0 ... +10 V or in current values 0 ... 20 mA, each channel can be selected independently.
- Max. 4 modules at one bus node.
- Galvanic separation.
- Protection against change of polarity.
- Reduction of the wiring costs, easy and fast installation.
- Connection technology with integrated pluggable spring cage terminals. Spring terminal blocks are also available as an option.
- 2-wire or 3-wire technique as per request.
- Additional terminals for potential separation.
- Fast installation by snapping on a standard mounting rail.
- Easy exchange of modules for servicing without disconnecting of each wire.
- Easy to program with the CAP 1131 tool.

Function

AIT 701 and AIT 704 with analog inputs

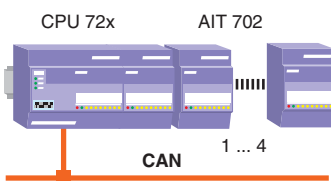
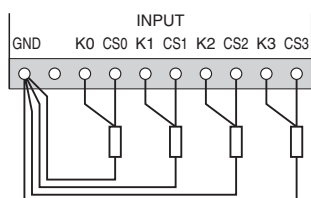
From analog input values the modules AIT 701/704 produce proportional signals to be transmitted digitally. The eight input channels are led to a common multiplexer and are galvanically separated. To install the module it is snapped on a support rail and the connector to the previous module is plugged in.

Technical data	AIT 701 (10 Bit)	AIT 704 (12 Bit)
Inputs (voltage/current)	8	8
Display	no	no
Signal range (DIP switch)	0 ... 10 V/0 ... 20 mA	0 ... 10 V/0 ... 20 mA
Resolution	10 Bit	12 Bit
Voltage source integrated	10 V / 10 mA	10 V / 10 mA
General		
Expandable	yes	yes
Ambient temperature (operation)	0 ... +55 °C	0 ... +55 °C
Connection technique	see chapter 9	see chapter 9
Protection mode	IP 40	IP 40
Dimensions (W x H x D)	55 x 85 x 58 mm	55 x 85 x 58 mm
Weight	110 g	110 g
Potential separation		
I ↔ Logic, CAN	yes	yes
I ↔ I	no	no
Ordering data		
Article number	44120050	44120053

Detailed information in system manual article number 43930129

Analog expansion modules Pt 100

Input module AIT 702



Characteristics and benefits

- Flexible expansion for CPU 72x and CAN bus coupler DDC 7xx.
- Four grounded analog inputs per module with 12-bit resolution
- Inputs Ni / Pt 100 / Pt 1000.
- Galvanic separation.
- Protection against change of polarity
- Max. 4 modules on one bus node
- Reduction of the wiring costs, easy and fast installation.
- Connection technology with integrated pluggable spring cage terminals. Spring terminal blocks are also available as an option.
- 3-wire technique.
- Additional terminals for potential separation.
- Fast installation by snapping on a standard mounting rail.
- Easy exchange of modules for servicing without disconnecting each wire.
- Easy to program with the CAP 1131 tool.

Function

AIT 702 with analog inputs

The temperature measurement is realised as a resistance measurement with forced current and external linearisation by means of software. For all current sources the current is adjusted by means of a DIP switch. The module AIT 702 has four ground based analog inputs allowing the voltage measurement at the temperature sensor. The AIT 702 is equipped with a reference voltage source which powers the A/D-converter and the current sources.

Technical data

Inputs (Ni/Pt 100/1000)

	AIT 702
Reference current source CS	+0,575 mA / +2 mA (switchable)
Output voltage U_{CS} max.	+0.5 ... +10 V
Signal ranges (DIP switch)	Ni / Pt 100 / Pt 1000
Resolution	12 Bit

General

Expandable	yes
Ambient temperature (operation)	0 ... +55 °C
Connection technique	see chapter 10
Protection mode	IP 40
Dimensions (W x H x D)	55 x 85 x 58 mm
Weight	110 g

Potential separation

I ↔ Logic, CAN	yes
I ↔ I	no

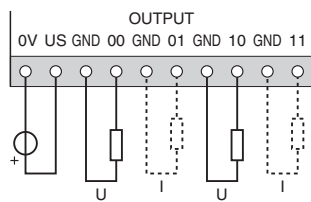
Ordering data

Article number	44120051
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Detailed information in system manual article number 43930129

Analog expansion modules

Output modules AOT 701 and AOT 704



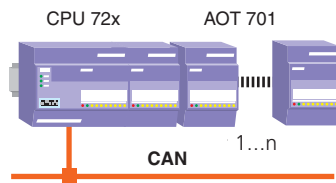
Characteristics and benefits

- Flexible expansion for CPU 72x and CAN bus coupler DDC 7xx.
- Two analog outputs per module with 10 resp. 12 Bit resolution.
- Outputs either in voltage values 0 ... 10 V or in current values 0 ... 20 mA.
- Max. 6 modules at one bus node.
- Galvanic separation.
- LED indicator for the supply voltage Us.
- Labelling strips.
- Reduction of the wiring costs, easy and fast installation.
- Connection technology with integrated pluggable spring cage terminals. Spring terminal blocks are also available as an option.
- 2-wire or 3-wire technique on request.
- Additional terminals for potential separation if required.
- Fast installation by snapping on a standard mounting rail.
- Easy exchange of modules for servicing without disconnecting each wire.
- Easy to program with the CAP 1131 tool.

Function

AOT 701 and AOT 704 with analog outputs

The expansion modules AOT 701 and AOT 704 are designed for 24 Vdc supply voltage. The modules generate analog output signals from digitally transmitted values. The values are presented in a proportional mode as voltage value in the range of 0 ... +10 Vdc or as current value in the range of 0 ... 20 mA. The resolution is of 10 Bit resp. 12 Bit.



Detailed information in system manual article number 43930129

Technical data	AOT 701	AOT 704
Analog outputs	2	2
Supply voltage US	+24 Vdc	+24 Vdc
Signal range voltage/current	0 ... 10 V / 0 ... 20 mA	0 ... 10 V / 0 ... 20 mA
Resolution	10 Bit	12 Bit
Protective circuit	Metal oxide varistors (MOV)	Metal oxide varistors (MOV)
General		
Expandable	yes	yes
Ambient temperature (operation)	0 ... +55 °C	0 ... +55 °C
Protection mode	IP 40	IP 40
Dimensions (W x H x D)	55 x 85 x 58 mm	55 x 85 x 58 mm
Weight	120 g	120 g
Potential separation		
US ↔ logic	yes	yes
O ↔ logic	yes	yes
O ↔ O	no	no
Ordering data		
Article number	44120055	44120056