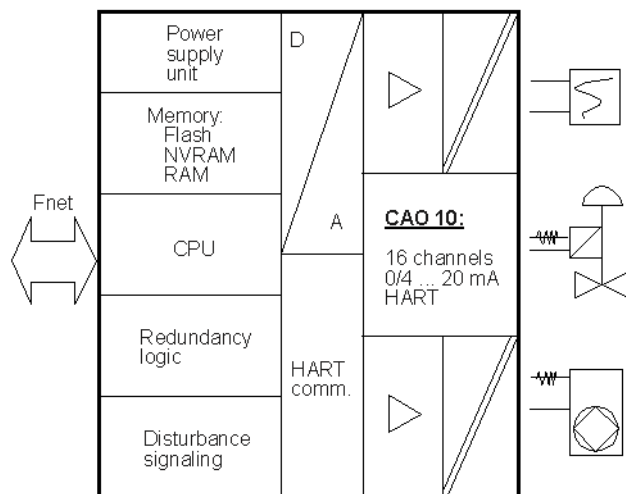


## CAO 10 - Analog output module

### Features / application



- 16 analog outputs, output signal 0/4 ... 20 mA, channel-by-channel configuration
- Load: max. 700 Ohm
- Monitoring of loads
- Channel-by-channel isolation of outputs
- Module is capable of redundant operation
- Digital communication with field devices according to HART protocol (Version 5.0 / 5.1)
- Monitoring of modules

The CAO 10 analog output module is used to activate the following devices:

- Intelligent and conventional actuators
- Pneumatic actuators
- Recorders
- Display instruments

## Technical data

Output signal "dead zero" (channel-by-channel configuration) - Nominal range (dead zero): - Max. signal size (dead zero):	$I = 0 \dots 20 \text{ mA}$ $I = 0 \dots 21.5 \text{ mA}$
Output signal "live zero" (channel-by-channel configuration) - Nominal range (live zero): - Max. signal size (live zero):	$I = 4 \dots 20 \text{ mA}$ $I = 3.6 \dots 21.5 \text{ mA}$
Load impedance:	$R \leq 700 \text{ Ohm}$ (incl. supply lines)
Load voltage:	$U = 0 \dots 15 \text{ V}$
Change of output signal with change of load $\pm 300 \text{ Ohm}$ (based on $300 \text{ Ohm}$ load and $U = 6.0 \text{ V}$ ):	$\leq \pm 0.3 \%$
Break / load monitoring - Threshold with "dead zero": - Threshold with "live zero":	$I_{act} < I_{nom}$ ; with $I_{act} > 40 \mu\text{A}$ $I_{act} < I_{nom}$ ; across entire signal range
HART communication:	With $I \geq 3 \text{ mA}$
Update rate of output signal:	$< 40 \text{ ms}$ , typ. $10 \text{ ms}$
Change of output signal:	Limited by PT1 element (where $T1 = 10 \text{ ms}$ )
D/A conversion - Type: - Zero deviation: - Range deviation: - Residual ripple:	12-bit converter (without preceding sign) $\leq \pm 30 \mu\text{A}$ $\leq \pm 0.2 \%$ with $300 \text{ Ohm}$ $< 50 \text{ mVpp}$ with $I_{max}$
Effect of temperature on - Zero point: - Gain:	$\leq 20 \mu\text{A} / 10 \text{ K}$ $\leq 0.08 \%$ / $10 \text{ K}$
Isolation:	Channel by channel
Rated voltage:	$50 \text{ V}_{eff}$ (to VDE 0110)
Voltage test:	$500 \text{ V}_{eff}$ (for channels and to system)
Ambient temperature:	$0 \dots 50^\circ \text{ C}$ (temperature for venting of module in rack)
Voltage supply: - Supply voltage: - Fuse:	$U_{v1}/U_{v2} = 20 \dots 33 \text{ V DC}$ Glass fuse link $5 * 20$ $3.15 \text{ A}$ slow-blowing T $3.15 \text{ H}$
Permitted overvoltages for voltage supply:	$35 \text{ V}$ (for $t = 1 \text{ s}$ ) $45 \text{ V}$ (for $t = 10 \text{ ms}$ )
Current drain (reference current):	$150 \text{ mA}$ where $U_v = 24 \text{ V}$ (power outputs disabled)
Power loss:	Max. $13 \text{ W}$

## Ordering Information

Catalog No.								Description	
72123-4-	0	7	8	8	7	2	3	CAO 10 - Analog output module	
Additional Order Information									
								Former System Packet (Indicate Version)	BA-No. 601
Necessary Accessories:									
72199-4-	0	7	4	5	2	1	3	CI 100 Connection Unit, grey, Standard Version, Basic	
	0	7	4	5	2	0	3	CI 101 Connection Unit, grey, Standard Version, Redundant 8 TE	
72199-4-	0	7	8	9	4	4	1	Cable Clamps	



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