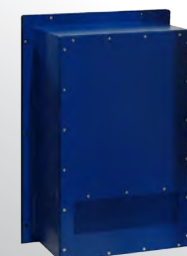
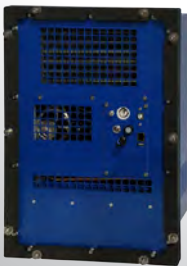


## mAC-C-400-24 – mini Air Cooler

compact and rugged compressor-based cabinet cooling system



- ❄️ 400 W cooling capacity  
( $T_{\text{CHILLED CABINET AIR}} +26^{\circ}\text{C}$ ,  $T_{\text{AMBIENT}} +35^{\circ}\text{C}$ , 55% r. h.)
- ❄️ Very compact & lightweight format compared to Peltier-based & other compressor-based coolers
- ❄️  $\pm 0.05$  K temperature stability
- ❄️  $+10^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  external working temperature range
- ❄️ IP65 environmental protection – suitable for harsh environments
- ❄️ PWM speed-controlled fan for noise reduction
- ❄️ 24 VDC supply – independent of mains AC voltage or frequency
- ❄️ IoT enabled



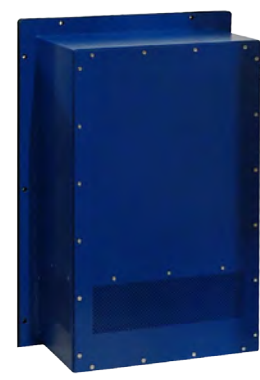
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THERMAL  
MANAGEMENT



## mAC-C-400-24

### mini, compressor-based air cooler takes over where Peltier isn't powerful enough

mAC-C-400-24 ("mini Air Cooler") is a compact, compressor-based cabinet cooler for cooling capacities up to 400 W. Its integrated controller drives the speed of the miniature rotary compressor to maintain the set temperature to within  $\pm 0.05$  K. A powerful fan moves the cabinet internal air at 130 m<sup>3</sup>/h. The external fan is PWM speed controlled for noise reduction. Miniature rotary compressors

as well as customized condensers and evaporators significantly reduce size and weight compared to Peltier-based cabinet coolers, while providing a highly efficient vapor compression circuit. With its 24 VDC supply voltage, the mAC-C-400-24 can be operated on the cabinet's 24 VDC voltage rail, independent of mains voltage.

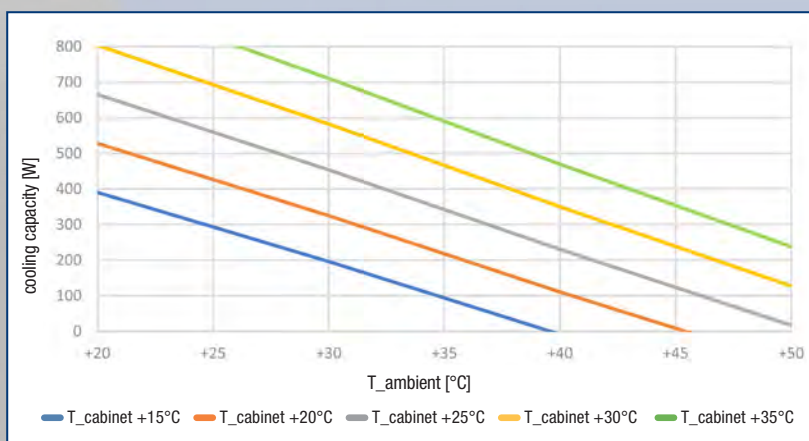
### key features

- compressor-based air cooler
- ideal for cabinet cooling tasks up to 400 W
- compact size & lightweight, easy to be attached to customer cabinet
- integrated temperature controller: set temperature through manual turn dial or control via RS232/Ethernet
- speed-controlled compressor – no hysteresis, stabilized temperature to  $\pm 0.05$  K
- PWM speed-controlled fan for noise reduction
- 24 VDC power supply – independent of mains AC voltage or frequency
- PID parameters and fan speed adjustable
- IoT ready - integrated Ethernet interface allows remote access to system parameters & remote control

specifications	
cooling capacity	400 W
operating voltage	24 VDC
operating current	max. 13 A
power consumption	max. 310 W
dimensions (l × w × h)	310 × 157 × 475 mm
external working temperature range	+10 – +50°C
internal working temperature range	+15 – +35°C
temperature stability	$\pm 0.05$ K
temperature setting	local control, USB/serial, Ethernet
orientation	flush mount, side wall or door
duty cycle	100%
refrigerant	R134a, 130 g (0.19 tequCO2)
cooling circuit max. pressure	22.06 bar
environmental protection level, enclosure side	IP2X
environmental protection level, ambient side	IP65 – suitable for harsh environments
material	sheet steel
weight	15 kg
approvals	CE

### performance mAC-C-400-24 cooling capacity

(on a 480 × 480 × 1000 mm cabinet with insulation  $R_{th} = 0.1$  K/W)

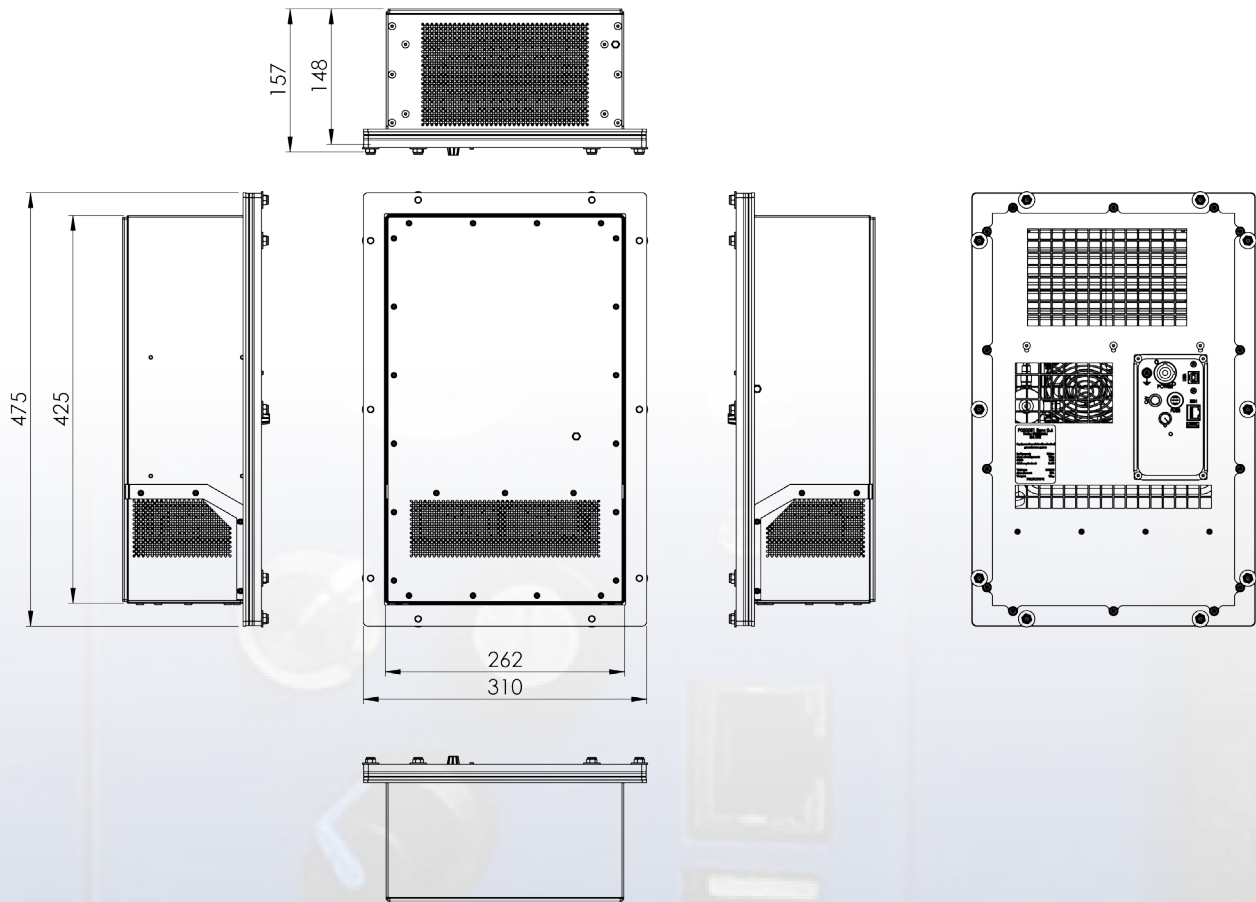


### your customized mAC-KIT

For customer requirements that cannot be covered by the mAC-C-400-24, our thermal management specialists at AMS Technologies are happy to develop a completely tailor-made solution and offer all services from development and proof-of-concept all the way to series production.



## dimensions [mm]



## IoT ready

mAC-C-400-24 202109-000012



### OPERATIONAL MODE

Set Temperature (10-30)  Set

### MANUAL MODE

Fan Speed (20-100)  Set

The mAC-C-400-24 is "IoT ready" – an integrated Ethernet interface allows remote access to system parameters as well as remote control of the cooling system via a web browser.

#### remote operation:

- switch on/off
- set regulation temperature
- set fan speed

#### remote monitoring:

- coolant loop: compressor speed setpoint, condenser temperature, fan speed
- current and voltage: supply voltage, control board current, compressor current, fan current
- alarms: cooling loop over-pressure, outlet temperature out of range, supply voltage out of range

- other: system internal temperature, time & date
- all data can be kept on memory card or/and in real-time database

#### remote service:

- switch on/off components individually: compressor, fan
- setting of alarms thresholds
- clear alarms
- power-on-test on/off

#### remote update of firmware





**SOLUTIONS**



# enabling your ideas.

Optical, Power and Thermal Management Technologies

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