

OPEN 500 EMS series designed as freely programmable **Direct Digital Controllers (DDCs)**



DS-OPEN 500X/x EMS/x
With 32 integrated IOs
With 32 integrated IOs
and manual control level



Variants with LM-enabled IOs

- Digital inputs: Signal inputs/numeric inputs, 24 V DC, each opto-decoupled with display LED
- Digital outputs: Transistor outputs, 24 V DC, can be loaded to max. 80 mA per output
- Analog inputs: For sensor types Pt1000, Ni1000¹⁾, 10 mV/K, 0-10 V, 0(4)-20 mA²⁾ as well as potentiometers
- Analog outputs: 0-10 V DC, can be loaded to max. 8 mA per output

Variants with NTC-enabled IOs

- Digital inputs: Such as LM variants
- Digital outputs: Such as LM variants
- Analog inputs: For sensor types 0-10 V, 0(4)-20 mA²⁾, NTC³⁾, KTY³⁾ as well as potentiometers
- Analog outputs: Like LM variants

Variants with manual control level

- 1x push button per analog output for changing between 3 operating modes (manual ON, manual OFF, and automatic)
- 1x push button per digital output for changing between 2 operating modes (MANUAL, automatic) and for adjusting the output values $\pm 10\%$ (± 1 V)
- Fulfill the functions for local override

Highlights at a glance

- ✓ Designed for the control and regulation of medium-sized systems and smaller systems
- ✓ Integrated Onboard BMS OPENview
- ✓ Integrated inputs and outputs – can be parameterized – each with 1x LED as visual signal transmitter with status display
- ✓ Alarm management – DEOS Secure AlarmApp (optional)
- ✓ Trend recording and trend export
- ✓ Service & Security Center (SSC) for IT security
- ✓ Expandable with modules
- ✓ Maintenance-free
- ✓ Extensive libraries, incl. graphics for efficient engineering

Software equipment & system integration²⁾

	DS-OPEN 500X/x EMS/x /0	/5
OPENview text	■	■
OPENview graphics	□	□
Service & Security Center	■	■
Alarm management	□	□
CAN-HSB	–	–
Redundancy	–	–
BACnet objects	–	–
M-Bus meters	–	–
External level converters	10 ⁴⁾	10 ⁴⁾
KNX data points	0 100 ⁵⁾	0 100 ⁵⁾
MODBUS data points	–	–
MODBUS slave	□	□
MODBUS master	0 100 ⁵⁾	0 100 ⁵⁾
DALI addresses	–	–
CAN devices	–	–
IO modules, drives ⁶⁾	0 5 ¹⁾	5
IO7, CORA, CODI	5	5
Total	5 10 ¹⁾	10
Physical data points	32	112

Hardware equipment & technical data²⁾

	DS-OPEN 500X/x EMS/x /0	/5
Fast Ethernet	2x 10/100 BaseT	
CAN-bus	1x CAN 2.0B	
RS232	1x RS232	
RS485	1x RS485	
USB	–	–
DALI interface	–	–
Assembly	on standard mounting rail 35 mm	
Dimensions (WxDxH)	160 mm x 60 mm x 90 (98) mm	
Material	Plastic	
Protection standard	IP 20	
Cooling	no fan; by convection	
Ambient temperature	0 ... 50°C	
Ambient humidity	5 ... 90% without condensation	
Installation position	Freely selectable	
Input voltage	24 V DC (19 ... 30 V DC)	
Input current	190 mA	
Power consumption	4.6 W	
max. back-up fuse	2 A	
Connection	Pull-off spring-loaded terminals	

- Standard
- Optional expandability
- Cannot be expanded

1 Various measuring elements

2 At 0(4)-20 mA: External load resistor 500 ohm required (not available from DEOS AG)

3 Additional product information is provided in the data sheet (see DEOS Portal at portal.deos-ag.com/...)

4 Standard activation: The number of M-Bus meters depends on the type of M-Bus level converter (see page 41 as well as page 67)

5 Maximum expansion (optional, surcharge)

6 Only drive types DWH, PLD, and PWD

OPEN 500 EMS	NTC-enabled	Type	Art. no.
With 32 integrated IOs ■ 8 AI, 4 AO, 8 DI, 12 DO	–	DS-OPEN 500/0 EMS	DS-360081
	–	DS-OPEN 500/5 EMS	DS-360080
	■	DS-OPEN 500/0 EMS/N	DS-360270
	■	DS-OPEN 500/5 EMS/N	DS-360271
With 32 integrated IOs and manual control level ■ 8 AI, 4 AO, 8 DI, 12 DO	–	DS-OPEN 500H/0 EMS	DS-360083
	–	DS-OPEN 500H/5 EMS	DS-360082
	■	DS-OPEN 500H/0 EMS/N	DS-360272
	■	DS-OPEN 500H/5 EMS/N	DS-360273

- NTC-enabled
- Not NTC-enabled

Expansion modules – functions		Type	Art. no.
OPENview graphics	For OPEN .../0 EMS	DS-OV0	DS-371210
	For OPEN .../5 EMS	DS-OV5	DS-371187
Alarm management	DEOS Secure AlarmApp ^{1), 2)}	DS-N-Alarm	DS-360410
	AlarmApp Reporter OPEN EMS ²⁾	DS-N-Reporter EMS	DS-360438
	AlarmApp user package 5 ³⁾ – monthly	DS-N-USER5	DS-360412
	AlarmApp user package 25 ³⁾ – monthly	DS-N-USER25	DS-360413
	AlarmApp user package 50 ³⁾ – monthly	DS-N-USER50	DS-360414

Expansion modules – system integration		Type	Art. no.
KNX	50 KNX data points	DS-KNX50	DS-371198
	100 KNX data points	DS-KNX100	DS-371193
MODBUS master	25 MODBUS data points	DS-MOD MA25	DS-371220
	50 MODBUS data points	DS-MOD MA50	DS-371170
	100 MODBUS data points	DS-MOD MA100	DS-371264
MODBUS slave		DS-MOD SL	DS-371169
ebm-papst ^{4), 6)}	7 ebm-papst data points (= 1 fan)	DS-EBM-PST	DS-371206
Grundfos ^{5), 6)}	7 Grundfos data points (= 1 pump)	DS-GR-PU	DS-371207

1 End customers need at least a user package (DS-360412, DS-360413, DS-360414) to be able to use the DEOS Secure AlarmApp. The use of the DEOS Secure AlarmApp is free of charge for employees of DEOS system partners.

2 Minimum prerequisite OPEN EMS firmware version 1,064

3 The user packages can be combined as required to achieve the desired number of users

4 Up to 128 fans can be connected via RS485

5 Up to 31 pumps can be connected via RS485

6 DS-EBM-PST and DS-GR-PU cannot be used simultaneously on one controller

OPEN 600 EMS series is certified as freely programmable **BACnet Building Controllers (B-BC)**



Highlights at a glance

- ✓ Designed for the control and regulation of medium-sized systems and smaller systems
- ✓ Integrated Onboard BMS OPENview
- ✓ Integrated inputs and outputs – can be parameterized – each with 1x LED as visual signal transmitter with status display
- ✓ Alarm management – DEOS Secure AlarmApp (optional)
- ✓ Trend recording and trend export
- ✓ Service & Security Center (SSC) for IT security
- ✓ Expandable with modules
- ✓ Maintenance-free
- ✓ Extensive libraries, incl. graphics for efficient engineering

Variants with LM-enabled IOs

- Digital inputs: Signal inputs/numeric inputs, 24 V DC, each opto-decoupled with display LED
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- Analog outputs: 0-10 V DC, can be loaded to max. 8 mA per output

Variants with NTC-enabled IOs

- Digital inputs: Such as LM variants
- Digital outputs: Such as LM variants
- Analog inputs: For sensor types 0-10 V, 0(4)-20 mA²⁾, NTC³⁾, KTY³⁾ as well as potentiometers
- Analog outputs: Like LM variants

Variants with manual control level

- 1x push button per analog output for changing between 3 operating modes (manual ON, manual OFF, and automatic)
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- Fulfill the functions for local override

Software equipment & system integration ²⁾	DS-OPEN 600X/x EMS/x		
	/0	/5	basic24
OPENview text	■	■	■
OPENview graphics	□	□	■
Service & Security Center	■	■	■
Alarm management	□	□	□
CAN-HSB	–	–	–
Redundancy	–	–	–
BACnet objects	250 500 ³⁾	250 500 ³⁾	250
M-Bus meters			
External level converters	10 ⁴⁾	10 ⁴⁾	10 ⁴⁾
KNX data points	0 100 ⁵⁾	0 100 ⁵⁾	0 100 ⁵⁾
MODBUS data points			
MODBUS slave	□	□	□
MODBUS master	0 100 ⁵⁾	0 100 ⁵⁾	0 100 ⁵⁾
DALI addresses	–	–	–
CAN devices			
IO modules, drives ⁶⁾	0 5 ¹⁾	5	0
IO7, CORA, CODI	5	5	5
Total	5 10 ¹⁾	10	5
Physical data points	32	112	24

Hardware equipment & technical data ³⁾	DS-OPEN 600X/x EMS/x		
	/0	/5	basic24
Fast Ethernet	2x 10/100 BaseT		
CAN-bus	1x CAN 2.0B		
RS232	1x RS232		
RS485	1x RS485		
USB	–	–	–
DALI interface	–	–	–
Assembly	on standard mounting rail 35 mm		
Dimensions (WxDxH)	160 mm x 60 mm x 90 (98) mm		
Material	Plastic		
Protection standard	IP 20		
Cooling	no fan; by convection		
Ambient temperature	0 ... 50°C		
Ambient humidity	5 ... 90% without condensation		
Installation position	Freely selectable		
Input voltage	24 V DC (19 ... 30 V DC)		
Input current	190 mA		
Power consumption	4.6 W		
max. back-up fuse	2 A		
Connection	Pull-off spring-loaded terminals		

- Standard
- Optional expandability
- Cannot be expanded

1 Various measuring elements

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4 Standard activation: The number of M-Bus meters depends on the type of M-Bus level converter (see page 41 as well as page 67)

5 Maximum expansion (optional, surcharge)

6 Only drive types DWH, PLD, and PWD

OPEN 600 EMS	NTC-enabled	Type	Art. no.
With 32 integrated IOs ■ 8 AI, 4 AO, 8 DI, 12 DO	–	DS-OPEN 600/0 EMS	DS-360077
	–	DS-OPEN 600/5 EMS	DS-360075
	■	DS-OPEN 600/0 EMS/N	DS-360266
	■	DS-OPEN 600/5 EMS/N	DS-360267
With 32 integrated IOs and manual control level ■ 8 AI, 4 AO, 8 DI, 12 DO	–	DS-OPEN 600H/0 EMS	DS-360079
	–	DS-OPEN 600H/5 EMS	DS-360078
	■	DS-OPEN 600H/0 EMS/N	DS-360268
	■	DS-OPEN 600H/5 EMS/N	DS-360269
With 24 integrated IOs ■ 8 AI, 4 AO, 8 DI, 4 DO	–	DS-OPEN 600 EMS basic24	DS-360160
	■	DS-OPEN 600 EMS basic24/N	DS-360274

- NTC-enabled
- Not NTC-enabled

Expansion modules – functions	Type	Art. no.
OPENview graphics	For OPEN .../0 EMS	DS-OV0
	For OPEN .../5 EMS	DS-OV5
Alarm management	DEOS Secure AlarmApp ^{1), 2)}	DS-N-Alarm
	AlarmApp Reporter OPEN EMS ²⁾	DS-N-Reporter EMS
	AlarmApp user package 5 ³⁾ – monthly	DS-N-USER5
	AlarmApp user package 25 ³⁾ – monthly	DS-N-USER25
	AlarmApp user package 50 ³⁾ – monthly	DS-N-USER50

Expansion modules – system integration	Type	Art. no.
BACnet	500 BACnet objects	DS-OPEN BAC5
KNX	50 KNX data points	DS-KNX50
	100 KNX data points	DS-KNX100
MODBUS master	25 MODBUS data points	DS-MOD MA25
	50 MODBUS data points	DS-MOD MA50
MODBUS slave	100 MODBUS data points	DS-MOD MA100
		DS-MOD SL
ebm-papst ^{4), 5)}	7 ebm-papst data points (= 1 fan)	DS-EBM-PST
Grundfos ^{6), 4)}	7 Grundfos data points (= 1 pump)	DS-GR-PU

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