

Life Is On

eliwellTM
by Schneider Electric

FREE Way

The programmable platform



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FREE Way

The programmable platform



FREE Smart models

Models are available both DIN rail mount version (SMD with display, SMC without display) and in the 32x74 Eliwell standard version (SMP) panel mount version.

The offering is completed by various expansions (SME) and terminals (SKP, SKW) for combination with FREE Smart series models.

All inputs and outputs are independent and configurable to ensure adaptability to any system.



FREE Smart connectivity

FREE Smart controllers are equipped with a serial port for easy integration with the supervision systems of the installation plant.

All controller resources can be accessed via standard Modbus communication protocol, guaranteeing complete control of the plant.

All models have TTL port as standard; /S models have built-in RS485 serial port.

A special Firmware version also provides the Modbus MASTER function.

FREE Smart 12...24 Vac / 24Vdc /C identifies units with RTC – Real Time Clock – /S identifies units with built-in RS485 serial output

Model	Code	Digital Outputs at hazardous voltage	TRIAC Outputs at hazardous voltage	O.C. outputs: PWM / PPM at safety extra low voltage (SELV)	Analog outputs 0-10 V at safety extra low voltage (SELV)	Digital Inputs voltage free	Analogue Inputs at safety extra low voltage (SELV)	O.C. Outputs	RS 485 built-in
SMP5500/C/S	SMP5500050450	5	-	2	3	6	5	1	yes
SMP5500/C	SMP5500010450	5	-	2	3	6	5	1	-
SMD5500/C/S	SMD5500050450	5	-	2	3	6	5	1	yes
SMD5500/C	SMD5500010450	5	-	2	3	6	5	1	-
SMD3600/C/S	SMD3600050450	3	2	1	3	6	5	1	yes
SMC5500/C/S	SMC5500050450	5	-	2	3	6	5	1	yes
SMC5500/C	SMC5500010450	5	-	2	3	6	5	1	-

Expansions

Model	Code	Digital Outputs at hazardous voltage	O.C. outputs: PWM / DI at safety extra low voltage (SELV)	Outputs 0...10 V at safety extra low voltage (SELV)	Outputs 4...20 mA / 0...20 mA	Analog inputs at safety extra low voltage (SELV)
SME3200	SME3200000400	3	-	2	-	6
SME5500	SME5500000450	5	-	2	3	6

FREE Smart 100...240 Vac /C identifies units with RTC – Real Time Clock – /S identifies units with built-in RS485 serial output

Model	Code	Digital Outputs at hazardous voltage	O.C. outputs: PWM / DI at safety extra low voltage (SELV)	Outputs 0...10 V at safety extra low voltage (SELV)	Outputs 4...20 mA / 0...20 mA	Analog inputs at safety extra low voltage (SELV)
SMD4500/C/S	SMD4500050H00	4	2	2	1	5
SMD4500/C	SMD4500010H00	4	2	2	1	5
SMC4500/C/S	SMC4500050H00	4	2	2	1	5

Expansion

Model	Code	Digital Outputs at hazardous voltage	O.C. outputs: PWM / DI at safety extra low voltage (SELV)	Outputs 0...10 V at safety extra low voltage (SELV)	Outputs 4...20 mA / 0...20 mA	Analog inputs at safety extra low voltage (SELV)
SME4500	SME4500000H00	4	2	2	1	5

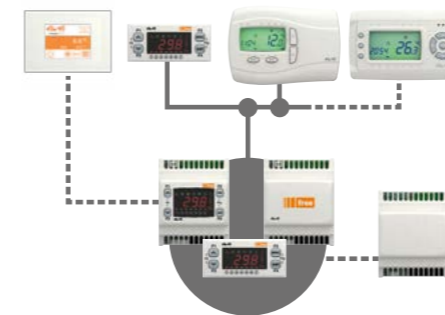
Terminals with power supply from base

Model	Code	Mount	Dimensions	Display	Analog inputs at safety extra low voltage (SELV)
SKP10	SKP100G000000	panel	74x32x30 mm	LED / 4 digits	-
SKW22	SKW220G000000	wall	137x96.5x31.3 mm	LCD	1 built-in NTC 1 NTC input / DI / 4...20 mA
SKW22L	SKW22LG000000	wall	137x96.5x31.3 mm	Backlit LCD	1 built-in NTC 1 NTC input / DI / 4...20 mA
SKP22	SKP220G000000	panel; wall: see Accessories page	160x96x10 mm	LCD	1 NTC input 1 NTC input / DI / 4...20 mA

KEY: SELV = Safety Extra Low Voltage; PPM = Pulse Position Modulation; PWM = Pulse Width Modulation; O.C. = Open Collector

FREE Smart maximum configuration

- max 1 FREE Smart model
- max 1 SME expansion by LAN serial line
- max 1 SKP10 terminal with controller ECHO function
- max 1 SKW22(L) or SKP22 terminal with dedicated menu, allowing ambient temperature and humidity monitoring
- LAN maximum distance: 100 m



FREE Smart update function

Multi Function Key (MFK 100) for uploading and downloading parameter map for quick configuration, and uploading the IEC application and BIOS.

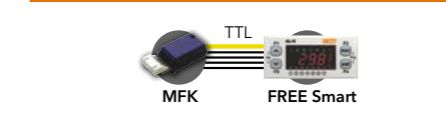
Multi Function Key / DMI PC → ← FREE



use blue TTL cable for DMI - MFK connection

	→	←
Data download direction		
Parameter map	-	-
IEC application	✓	-
BIOS	✓	-

Multi Function Key MFK → ← FREE



use yellow TTL cable for MFK - target connection

	→	←
Data download direction		
Parameter map	✓	✓
IEC application	✓	-
BIOS	✓	-

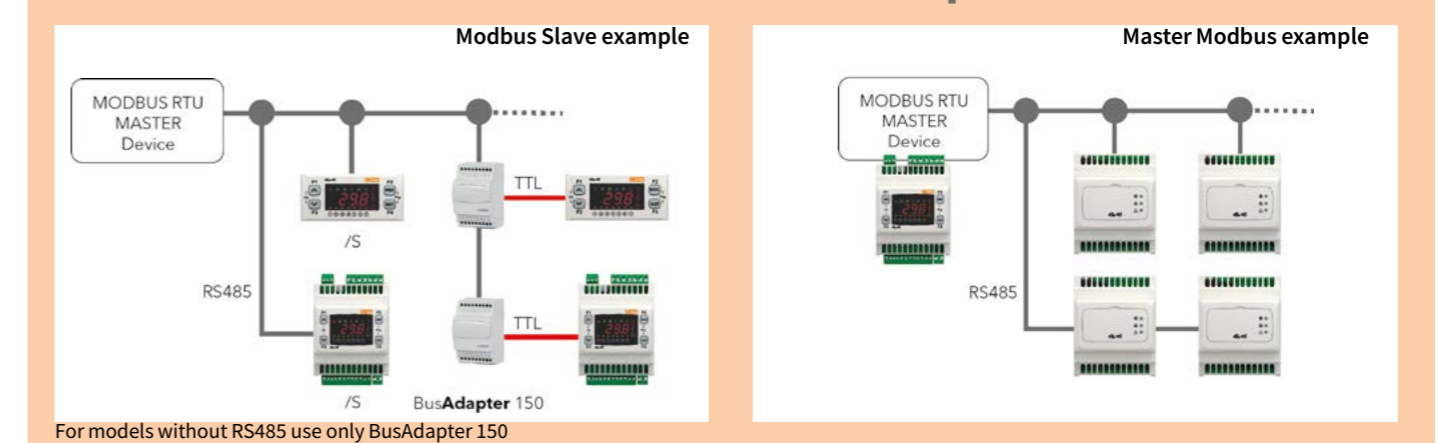
Network PC → ← FREE



use yellow TTL cable for DMI - target connection

	→	←
Data download direction		
Parameter map	✓	✓
IEC application	✓	-
BIOS	✓	-

Modbus Slave or Master mode connection examples



For models without RS485 use only BusAdapter 150

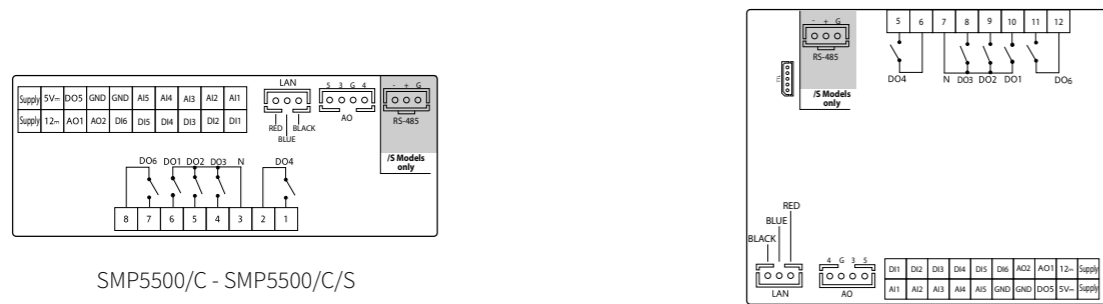
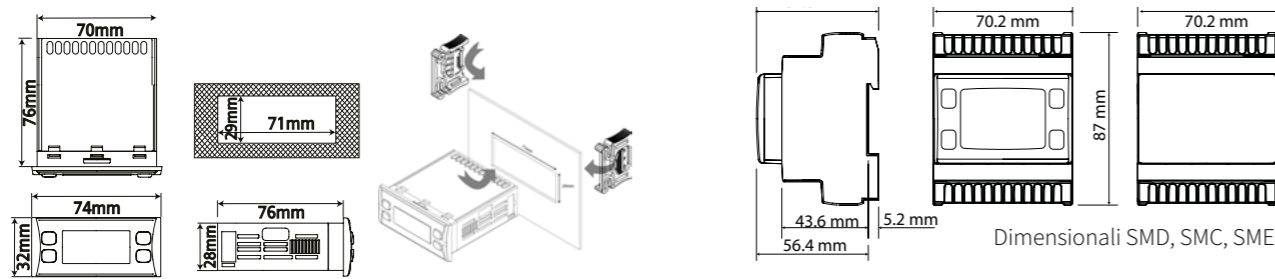
SMP, SMD, SMC5500



Technical data

	SMP5500	SMD5500	SMC5500
size	32x74x80 mm (LxHxd)	4DIN	
display	LED 4 digit - 7 segments		-
power supply	12...24 Vac / 24 Vdc		
relay digital outputs	5 x 2 A 250 Vac		
analog outputs	2 x O.C. PPM/PWM 3 x 0...10 V		
O.C. digital outputs	1 Open Collector		
digital inputs	6 voltage free		
analog inputs	3 x NTC / D.I. 2 x NTC / D.I. / 0...20 mA / 4...20 mA / 0-10 V / 0-5 V / 0-1 V		
connectivity	TTL RS485 isolated (only /S models) LAN for connection to SKP/SKW terminal or SME expansion		
operating temperature	-20...+55 °C		

Electric, mount and dimensional diagrams



SMP5500/C - SMP5500/C/S

SMD5500/C/S - SMC 5500/C - SMC5500/C/S

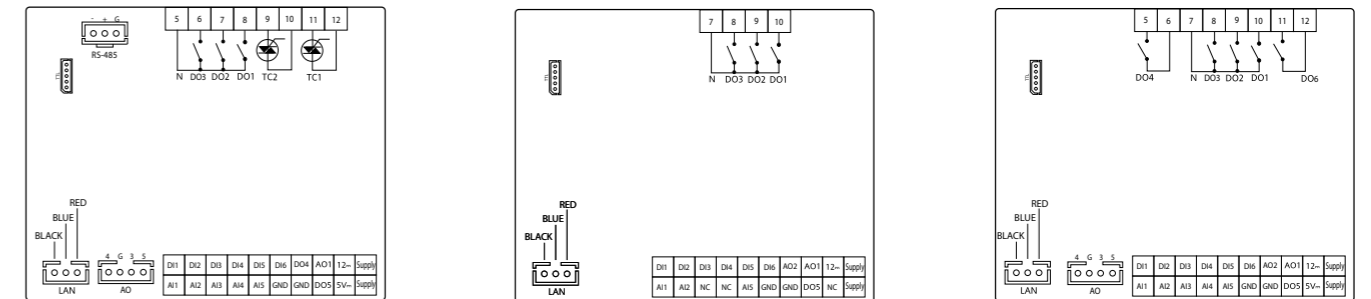
SMD3600, SME Expansions



Technical data

	SMD3600	SME3200	SME5500
size	4DIN		
display	LED 4 digit - 7 segments		-
power supply	12...24 Vac / 24 Vdc		
relay digital outputs	3 x 2A 250 Vac		5 x 2A 250 Vac
analog outputs	2 x TRIAC 3 A 250 Vac 1 x Open Collector PPM/PWM 3 x 0...10 V	1 x Open Collector PPM/PWM	2 x Open Collector PPM/PWM 3 x 0...10 V
O.C. digital outputs	2 Open Collector		1 Open Collector
digital inputs	6 voltage free		
analog inputs	3 x NTC / D.I. 2 x NTC / D.I. / 0...20 mA / 4...20 mA / 0-10 V / 0-5 V / 0-1 V	3 x NTC / D.I.	3 x NTC / D.I. 2 x NTC / D.I. / 0...20 mA / 4...20 mA / 0-10 V / 0-5 V / 0-1 V
connectivity	TTL RS485 isolated LAN for connection to SKP/SKW terminal or SME expansion	TTL - LAN for connection to FREE Smart	TTL - LAN for connection to FREE Smart
operating temperature	-20...+55 °C		

Electric diagrams



SMD3600/C/S

SME3200

SME5500

SMD, SMC4500, SME4500 Expansion



SMD4500

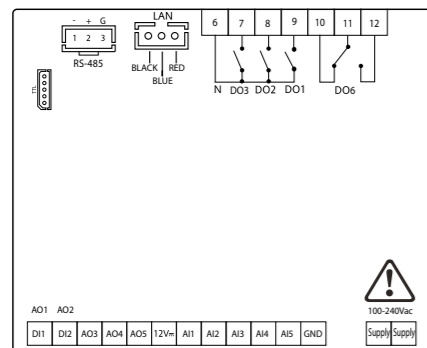
SMC4500

SME4500

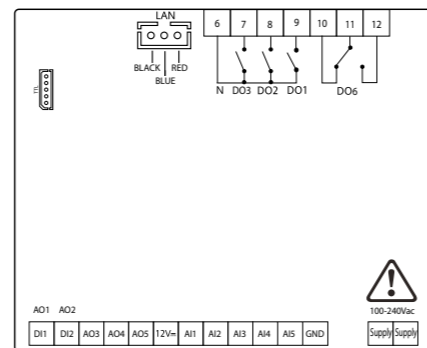
Technical data

	SMD4500	SMC4500	SME4500
size		4DIN	
display	LED 4 digit - 7 segments	-	-
power supply		100...240 Vac	
relay digital outputs		4 x 2 A 250 Vac	
analog outputs		2 x Open Collector PWM/D.I. 2 x 0...10 V 1 x 4...20 mA / 0...20 mA	
analog inputs		3 x NTC / Pt1000 / D.I. 2 x NTC / D.I. / 0...20 mA / 4...20 mA / 0-10 V / 0-5 V / 0-1 V	3 x NTC / D.I. 2 x NTC / D.I. / 0...20 mA / 4...20 mA / 0-10 V / 0-5 V / 0-1 V
connectivity		TTL RS485 LAN for connection to SKP/SKW terminal or SME expansion	TTL - LAN for connection to FREE Smart
operating temperature		-20...+55 °C	

Electric diagrams



SMD4500/C/S - SMC4500/C/S



SME4500 Expansion

Interfaces, FREE Smart Terminals



SKP10

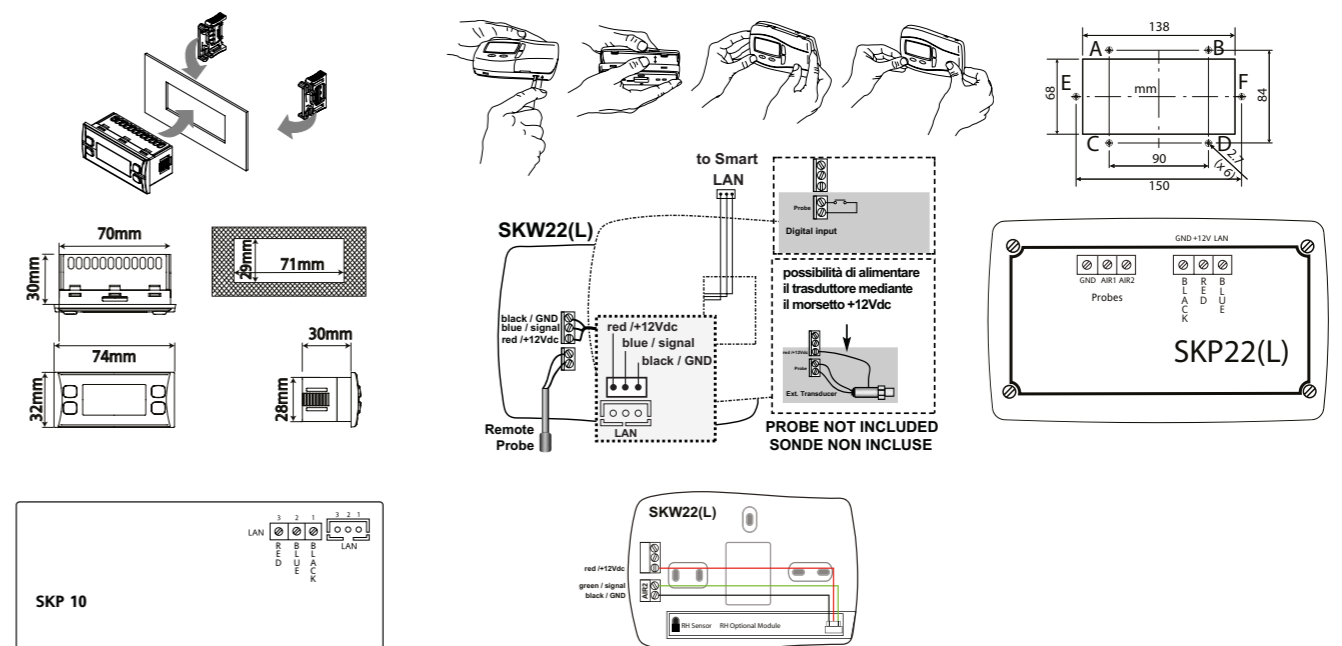
SKW22/22L

SKP22

Technical data

	SKP10	SKW22 - SKW22L	SKP22
size (LxDxH)	74x32x30 mm	4DIN	
mount	panel	wall	panel
display	LED 4 digit - 7 segments	LCD (model 22L: Backlit LCD)	LCD
power supply		from base	
analog inputs	-	1 x built-in NTC 1 x NTC / D.I. / 0...20 mA / 4...20 mA remote	1 x remote NTC 1 x NTC / D.I. / 0...20 mA / 4...20 mA remote
connectivity		LAN for connection to FREE Smart	
wiring		COLV000033200 cable included in pack	
operating temperature	-20...+55 °C	-5...+60 °C	
humidity module	-	KP100000 - not included (see Accessories page)	-

Electric and mount diagrams



SKP10

SKW22 - SWK22L

SKP22

FREE Advance, FREE Evolution and FREE Panel accessories

Converters, interfaces, programming keys

Code	Description	Details
SAR0RA00X701	USB/485 MINI KIT converter	-
EVA00USCA0000	USB/CAN converter	-

Base plates

Code	Description	Details
EVA00WMRC0000	Kit (4 Pcs) White base plate for wall mount	For EVP/AVK/EVK
EVA00WMRC0001	Kit (4 Pcs) Black base plate for wall mount	For EVP/AVK/EVK
AVA00WMRC0000	White base plate for wall mount	For AVP1000
AVA00WMRC0001	Grey base plate for wall mount	For AVP1000

Demo Case

Code	Description	Details
VAL00033K	Demo Case for FREE Evolution	-
VAL00034	Demo Case for FREE Advance	-

Temperature probes*

Code	Description	Details
SN8DED11502C0	NTC 103 AT 5X20 1.5 m TP IP68	-
SN8DAE11502C0	NTC 103 AT 6X20 1.5 m TP IP68	-
SN9DAE11502C6	Pt1000 6X20 1.5 m IP68	FREE Evolution / FREE Advance
SN9DED11502C6	Pt1000 5X20 1.5 m IP68	-

Transformers

Code	Description	Details
TF111202	Transformer 230V~/24 V 25 VA	For FREE Evolution only
TF111205	Transformer 230V~/24 V 35 VA DIN rail mount	FREE Evolution / FREE Advance

FREE range accessories

Pressure transducers

Code	Description	Details
TD220050	EWPA050 4...20 mA / 0...667 psi / 0..50 bar IP54** 2 m cable	1/4 SAE MALE
TD220007	EWPA007 4...20 mA / -7...101.5 psi / -0.5..7 bar IP54** 2 m cable	1/4 SAE MALE
TD320050	EWPA050 4...20 mA / 0...667 psi / 0..50 bar IP54** 2 m cable	1/4 SAE FEMALE
TD320007	EWPA007 4...20 mA / -7...101.5 psi / -0.5..7 bar IP54** 2 m cable	1/4 SAE FEMALE

Ratiometric transducers

Code	Description	Details
TD420010	EWPA 010 R 0...145 psi / 0...10 bar IP67 2 m cable (packard connector)	Female connection
TD420030	EWPA 030 R 0...508 psi / 0...30 bar IP67 2 m cable (packard connector)	Female connection
TD420050	EWPA 050 R 0...667 psi / 0...50 bar IP67 2 m cable (packard connector)	Female connection

Expansions, fan modules

Code	Description	Details
MW320100	EXP11 250 V 10 A expansion with DIN rail mount base	Open Collector Output
MW991012	CFS05 TANDEM TRIAC 5+5 A 250 V	-
CFS Modules	CFS - Single-phase speed regulators for currents from 2 A to 9 A	Various articles available

KEY: SELV = Safety Extra Low Voltage

*different cable lengths available on request **optional IP67 version with packard connector

Code tables

FREE Smart

SMD5500050400		SM	D	5	5	00	05	0	4	00
Product family	FREE Smart series									
Physical feature	D = Built-in Display, DIN-rail mounting C = Blind, DIN-rail mounting P = Panel mounting 32x74 E = I/O Expansion module, DIN-rail mounting									
Number of digital outputs	5 4 3 2									
Number of analog outputs	6 5 2									
Not relevant	00									
Embedded Communication & Real Time Clock	05 = RTC and RS-485 01 = RTC									
Not relevant	0									
Power supply	4 = 12...24 Vac, 24 Vdc H = 100...240 Vac ⁽¹⁾									
Customization	00 = standard other values = variants & customization on demand									

⁽¹⁾ Only for SMD, SMC and SME models

FREE Advance

AVD1260060500		AV	D	12	6	0	06	0	5	00
Product family	FREE Advance series									
Physical feature	D = Built-in Display C = Blind									
Number of digital outputs	3 6 8 12									
Number of analog outputs	0 2 4 6									
Digital output type	00: The digital outputs are relay SS: 2 digital outputs are SSR NOTE: Only one digit in case of 12 digital outputs									
Embedded Communication	06 = RS-485 and Ethernet based communication protocols 05 = RS-485 based communication protocols									
Power supply isolation⁽¹⁾	0 1: Power Supply Isolated									
Power supply	5 = 24 Vac/dc									
Not relevant	00									

⁽¹⁾ Only for 28 and 42 I/O

