MOELLER

Hardware and Engineering

PS 4-141-MM1
PS 4-151-MM1

Apter Power

04/99 AWB 27-1266 GB
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See modifications list on page II
© Moeller GmbH, Bonn
Author: Norbert Mausolf
Editor: Thomas Kracht
Translator: Terence Osborn

PS 4-150 Compact PLCs

Table 1: Features of the compact PLCs

PS4-141-MM1	PS4-151-MM1
24 V DC power supply	115 to 230 V AC power supply
16 digital inputs 24 V DC	16 digital inputs 2 4V DC
14 digital outputs 24 V DC	8 relay outputs
2 analog inputs	2 analog inputs
1 analog output	1 analog output

Setup

Figure 1 and 2 provide an overview of the controls and indicators of the programmable controllers as well as the device connections.



Warning!
Always ground yourself before touching the PLC to protect the components against electrostatic discharge.

Legend for Figure 1:
① 24 V DC power supply
② High-speed counter input, 3 kHz
③ 16 digital inputs 24 V DC
④ Alarm input
⑤ Plug-in screw terminal
⑥ Status LEDs for digital inputs
⑦ 14 digital outputs 24 V DC/0.5 A; short-circuit-proof and overload-proof
2 analog inputs U_0, U_1 (0 to 10 V)
1 analog output U_{10} (0 to 10 V)
24 V DC power supply for outputs
⑧ Status LEDs for digital outputs
⑨ Suconet K interface
⑩ Setpoint potentiometers P1, P2
⑪ Switch S1 for bus terminating resistors
⑫ Programming device interface (PRG)
⑬ Memory module (optional)
⑭ Status LEDs for PLC

04/99 AWB 27-1266 GB

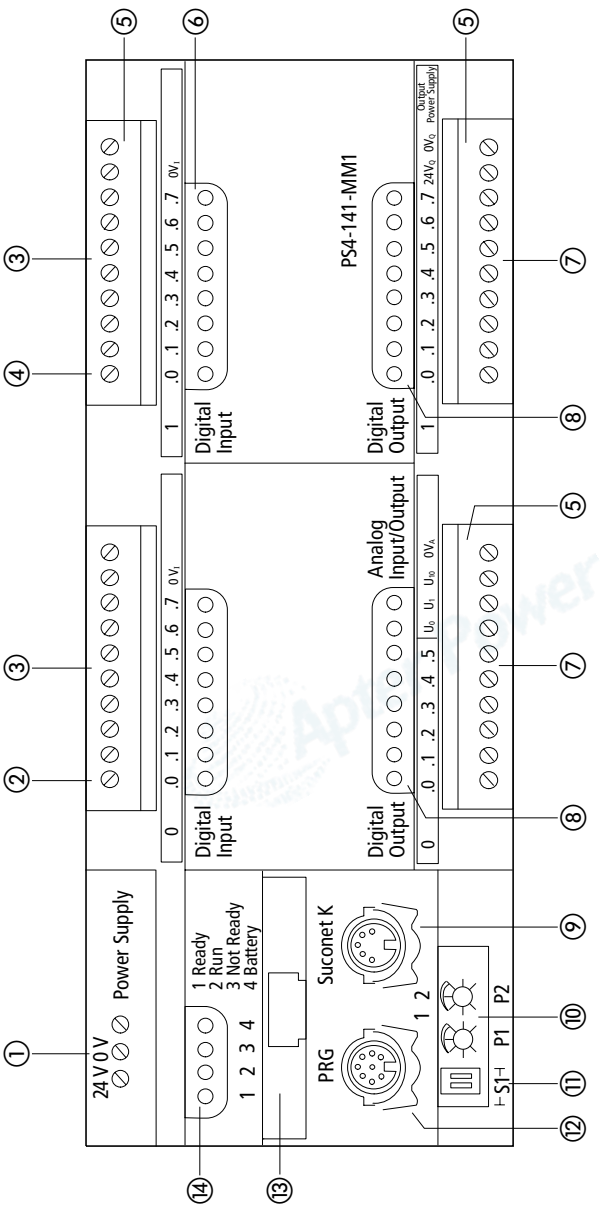


Figure 1: Setup of the PS4-141-MM1

Technical Data

General	
Standards	EN 61 131-2, EN 50 178
Ambient temperature	0 to 55°C
Storage temperature	–20 to 70°C
Vibration resistance	1 g/0 to 150 Hz
Shock resistance	15 g/11 ms
Vibration	Constant 1 g, f = 0 to 150 Hz
EMC	See Page 81
Programming interface	RS 232, length of programming cable < 3 m
Network interface	RS 485
Bus	Suconet K
Data cable length	600 m/300 m
Transfer rate	187.5 kBit/s to 375 kBit/s
Operating mode	Master/slave
Degree of protection	IP 20
Rated insulation voltage U_i	600 V AC
Real-time clock	Yes
Accuracy of real-time clock	6.1 min/year (battery-backed)
Battery (life)	Normally 5 years
Expandable (remotely)	Up to 8 stations
User and data memory (internal)	32 Kbytes
Memory modules (external)	32 Kbyte RAM or 128 Kbyte flash EPROM or 32 Kbyte RAM and 128 Kbyte flash EPROM
Normally cycle time for 1 K instructions (bits, bytes)	5 ms
No. of inputs (central)	16
No. of outputs (central)	14 for PS4-141-MM1 8 for PS4-151-MM1
Max. no. of inputs/outputs (remote)	680, addressable via any Suconet line
Weight	Approx. 700 g

Appendix

Power supply PS4-141-MM1	
Rated voltage U_e	24 V DC
Permissible range	20.4...28.8 V DC
Residual ripple of input voltage	< 5 %
Reverse polarity protection	Yes
Rated current I_e	Normally 300 mA
Inrush current and duration	4 A < 5 ms
Power consumption	Approx. 6.5 W
Power dissipation (complete device)	Approx. 6.5 W
Bridging of voltage dips	
Duration of dip	10 ms
Repetition rate	1 s
Error indication	Yes (LEDs)
Protection class	1
Isolation	Yes
Terminals	Screw terminals
Conductor cross-section	
Flexible with ferrule	0.22...2.5 mm^2
Single core	0.22...2.5 mm^2
Rated insulation voltage	600 V AC
Power supply PS4-151-MM1	
Rated voltage U_e	115 to 230 V AC
Permissible range	98 to 264 V AC
Rated frequency Fn	47 to 63 Hz
Reverse polarity protection	Yes
Rated current I_e	Normally 150 mA
Inrush current	< 12 A for 230 V
Power consumption	Approx. 12 W
Bridging of voltage dips	
Duration of dip	10 ms
Repetition rate	1 s

04/99 AWB 27-1266 GB

Appendix

Alarm input (I1.0)	
Analog inputs	
No.	2
Signal range	0 V to 10 V
Total error	Normally 0.8 % of final value
No. of conversions	1 × per cycle
Input resistance	20 kΩ
Connection type of signal transmitter	Two-wire connection to transmitter
Digital representation of input signal	10 bits (1024 increments)
Setpoint potentiometers	
No.	2
Value range	10 bits (1024 increments)
Adjustment	With screwdriver
Outputs PS4-141-MM1	
No. of outputs	14
Rated voltage U_e	24 V DC
Permissible range	20.4...28.8 V DC
Reverse polarity protection	Yes
Max. ripple	≤ 5 %
Isolation	
In groups	No
Rated current I_e	
For “1” signal	0,.5 A DC for 24 V DC
Lamp load	4 W without series resistor
Utilization factor g	1
Relative duty factor	100 %
Parallel connection of outputs	
No. of outputs	4
Total maximum current	2 A
Total minimum current	250 mA
Residual current with “0” signal	Approx. 140 µA

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