

PRINTER

ALGE-TIMING



P5-5
P5-8
P5-9
P5-25

Manual

Important Information

General

Before using your **ALGE-TIMING** device read the complete manual carefully. It is part of the device and contains important information about installation, safety and its intended use. This manual cannot cover all conceivable applications. For further information or in case of problems that are mentioned not at all or not sufficiently detailed, please contact your **ALGE-TIMING** representative. You can find contact details on our homepage www.alge-timing.com

Safety

Apart from the information of this manual all general safety and accident prevention regulations of the legislator must be taken into account.

The device must only be used by trained persons. The setting-up and installation must only be executed according to the manufacturer's data.

Intended Use

The device must only be used for its intended applications. Technical modifications and any misuse are prohibited because of the risks involved! **ALGE-TIMING** is not liable for damages that are caused by improper use or incorrect operation.

Power supply

The stated voltage on the type plate must correspond to voltage of the power source. Check all connections and plugs before usage. Damaged connection wires must be replaced immediately by an authorized electrician. The device must only be connected to an electric supply that has been installed by an electrician according to IEC 60364-1. Never touch the mains plug with wet hands! Never touch live parts!

Cleaning

Please clean the outside of the device only with a smooth cloth. Detergents can cause damage. Never submerge in water, never open or clean with wet cloth. The cleaning must not be carried out by hose or high-pressure (risk of short circuits or other damage).

Liability Limitations

All technical information, data and information for installation and operation correspond to the latest status at time of printing and are made in all conscience considering our past experience and knowledge. Information, pictures and description do not entitle to base any claims. The manufacturer is not liable for damage due to failure to observe the manual, improper use, incorrect repairs, technical modifications, use of unauthorized spare parts. Translations are made in all conscience. We assume no liability for translation mistakes, even if the translation is carried out by us or on our behalf.

Disposal

If a label is placed on the device showing a crossed out dustbin on wheels (see drawing), the European directive 2002/96/EG applies for this device.

Please get informed about the applicable regulations for separate collection of electrical and electronical waste in your country and do not dispose of the old devices as household waste. Correct disposal of old equipment protects the environment and humans against negative consequences!



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1 General

The printer P5 has got an easy to operate thermal printer. The printing head don't move and the roller is integrated into the paper cover. That means that in case of changing paper you just have to open the printer, insert a new roll of paper, insert the paper through the tear-off edge and close the printer cover. The printer works fast and silently and prints up to 6 lines per seconds.

2 Printer P5 types

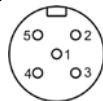
- Printer P5-5:** with connecting cable for Timer S4, SWIM2000, OPTIc, StartJudge
 - Printer P5-8:** with connecting cable for Comet (only with external supply)
 - Printer P5-25:** with connecting cable for Timy
 - Printer P5-9:** with connecting cable for PC (only with external supply)
- The printer P5 don't functions with Timer S3 and Selftimer SF2, since the printer-interface isn't compatible.

3 Technical details

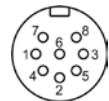
Printing principle:	graphics supporting thermal printer
Printing speed:	up to 6 lines per second
Signs per line:	with standard character height, 21 signs per line
Sign height:	16 x 20 points, B x H = 1,9 x 2.0 mm
Sign matrix:	8 dots/mm
Size of point:	diameter 0,125 mm
Character set:	Matrix printer
Operating elements:	Switcher for paper feeder
Connecting plugs:	Supplying plugs (6 to 15 VDC)
Connecting jack:	depending on type (see below), cable length approx. 1m
Supply:	of timing device or external (5 to 15 VDC)
Activity input:	approx. 20 mA standby approx. 1,5 A by printing a line (ALGE-mode)
Paper:	thermal paper, 57 mm wide, reel diameter 49 mm, reel length approx. 23 m
Operating temperature:	-20 to 55°C
Dimensions:	B x T x H = 90 x 157 x 64 mm
Weight:	all modells approx. 0,350 kg (without paper)
Interface:	RS 232
Transfer speed:	factory setting: 2.400 Baud (necessary for ALGE devices) on order: 4800, 9600, 19200, 28800 or 38400
Protocol:	ASCII, 1 Startbit, no Paritybit, 8 Databit, 1 Stopbit

4 Plug assignment

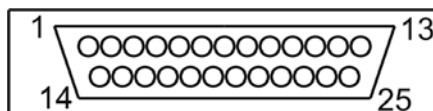
- Printer P5-5:**
- 1 GND
 - 3 RXD (data input)
 - 4 tension of supply +6 to +15 VDC



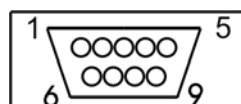
- Printer P5-8:**
- 1 RXD (data input)
 - 2 GND
 - 7 Tension of supply +10 to +15VDC



- Printer P5-25:**
- 12 GND
 - 20 RXD (data input)
 - 23 tension of supply 6 - 15 VDC
 - 24 GND



- Printer P5-9 (for RS 232 interface e.g. at PC):**
- 2 TXD (data output)
 - 4 short circuit with 6
 - 5 GND
 - 6 short circuit with 4
 - 7 short circuit with 8
 - 8 short circuit with 7



5 Printer P5 - Commands

Text attribute:

SO	14	Switch-on wide print
DC4	20	Switch-off wide print
ESC – n	27 45 n	Switch-on/off underlining n = 0: off n = 1: on
ESC G n	27 71 n	Switch-on/off inverse print n = 0: off n = 1: on
ESC H n	27 72 n	Choose character height n = 1: character height normal n = 2: character height doubled n = 3: character height trebled n = 4: character height quadrupled
ESC P n	27 80 n	Choose standard font: 1 =16x20, 2=10x20, 3=8x20, 4=12x20 dots n = 1: standard font 16 x 20 dot n = 2: narrow font 10 x 20 dot n = 3: small font 8 x 20 dot n = 4: narrow font 12 x 20 dot

Graphics:

ESC K l m data	27 75 l m data	Print graphics data l quantity dotlines (LSB) m quantity of dotline (MSB) data .. graphics data
ESC k l m data	27 107 l m data	RLE print compressed graphic lines l quantity dotlines (LSB) m quantity of dotline (MSB) data .. RLE compressed graphic data
ESC * n data	27 42 n data	print graphic line wit n Byte length n quantity of Bytes in one line (1 <= n <= 54) data .. graphic data
ESC L l m data	27 76 l m data	print graphic in half resolution l quantity dotlines (LSB) m quantity of dotline (MSB) data .. graphic data
ESC ll m data	27 108 l m data	RLE print compressed graphic in half resolution l quantity dotlines (LSB) m quantity of dotline (MSB) data .. RLE compressed graphic data
ESC # n data	27 35 n data	print graphic line wit n Byte length and half resolution n quantity of data bytes (1 <= n <= 27) data .. graphic data
ESC X	27 88	Print logo

ESC x lx mx ly my data 27 120 lx mx ly my Logo defining
 lx..... quantity Bytes breadth (LSB)
 mx quantity Bytes breadth (MSB)
 ly..... quantity Datolines height (LSB)
 my quantity Datolines heigth (MSB)
 data .. Logo data

General:

CR	13	Print line and push the paper forward
LF	10	Print line and push paper forward
BS	8	clear last sign in line puffer
CAN	24	clear line puffer
ESC A n	27 65 n	push paper forward at character height + set n dotlines 0 <= n <= 127
ESC B n	27 66 n	Singular pushing forward of the paper at character height + n dotlines 0 <= n <= 127
ESC R n	27 82 n	go back for n dotlines (2052) 0 <= n <= 255
ESC @	27 64	intitializing printer
ESC DC3	27 19	get printer into sleep mode

Special command sequence:

ESC C n	27 67 n	trigger out paper cut (2003) n = 0 or 1
ESC ESC D n	27 27 68 n	adjust quantity of print division n = 0 . adaptive (depending on printer data) n = 1 . print without split lines n = 2 . print in two parts n = 3 . print in three parts
ESC ESC C	27 27 67	trigger out paper cut (2003)
ESC ESC T	27 27 84	trigger out paper cut (2003)
ESC ESC 0	27 27 48	feed rate with maximum speed
ESC ESC 1	27 27 49	set maximum feed rate to 15 mm/s
ESC ESC 2	27 27 50	set maximum feed rate to 25 mm/s
ESC ESC 3	27 27 51	set maximum feed rate to 30 mm/s
ESC ESC 4	27 27 52	set maximum feed rate to 40 mm/s
ESC ESC 8	27 27 56	set maximum feed rate to 8 mm/s
ESC ESC 0 n	27 27 68 n	set quantity of print devisions

Printer P5 – status notifications:

The printer reports his status via the serial interface to the host computer in terms of single signs. The following error messages are defined:

Sign	Description
P	End of paper
H	Head Up
T	Head temperature over 70°C
K	Head temperature below 0°C
M	Operating Voltage too high
U	Operating Voltage too low
A	defect of the paper cutter
X	Printer ready after trouble shooting

