

INSTRUCTION MANUAL

FOTEMP

ASCII commands



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Preliminary note

This document provides a complete list of ASCII commands for all COMEM FOTEMP devices, including optional commands for analog output, relays, and logging. If your device does not support a specific feature, the corresponding commands will not function.

Configuration

Ports

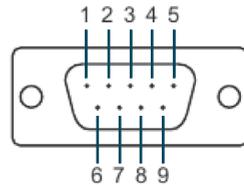
The ASCII protocol is available over RS232, RS485 and as virtual port for USB and Ethernet.

Settings

Parameter	Value
Baudrate	57600
Stopbits	1
Parity	None
End of Line	CL + LF
Port (Ethernet)	1312

Pins

Pin	RS232	RS485
1	-	A
2	RX	B
3	TX	-
4	-	-
5	GND	GND
6	-	-
7	-	-
8	-	-
9	-	-



Read commands

Device commands

Function	Command	Parameter	Response	Description
All average temperatures	?02	none	*(Temperature (dec) "---") e.g. #02 200 204 195 --- *00	Average temperatures of all channels
All temperatures	?04	none	*(Temperature (dec) "---") e.g. #04 200 204 195 --- *00	Temperatures of all channels
Error	?07	none	*(Error (dec)) e.g. #07 0 0 0 3 *00	0: Channel OK 1: No sensor 2: No signal 3: Signal to low 4: Signal to high 5: Channel off
Channel count	?0F	none	Number (dec) e.g. #0F 4 *00	
Channel enabled	?10	none	Bit-Array (hex) e.g. #10 0F *00	Bit X: Channel X activated
Channel disturbed	?11	none	Bit-Array (hex) e.g. #11 08 *00	Bit X: Error on channel X
Actual channel	?12	none	Number (dec) e.g. #12 4 *00	
Integration time	?23	none	*(Timespan (dec)) e.g. #23 16 20 19 25 *00	
Auto integration	?26	none	Flag (boolean) e.g. #26 1 *00	0: Constant exposure time 1: Auto tuning
Next lamp delay	?27	none	Timespan (dec) e.g. #27 134 *00	Preglowing time before a measure starts on this channel
Model name	?40	none	String (hex) e.g. #40 46 54 43 4F 4D 50 32 *00	
Serial number	?41	none	String (hex) e.g. #41 30 30 34 30 30 39 39 *00	
Firmware version	?42	none	String (hex) e.g. #42 33 2E 30 33 31 *00	
Library version	?43	none	String (hex) e.g. #43 31 2E 33 30 32 *00	
Hardware configuration	?46	none	Bit-Array (dec) e.g. #11 01362 *00	Bit 1: LED Bit 2: Display Bit 3: RS232 Bit 4: RS484 Bit 5: USB Bit 6: Ethernet Bit 7: Modbus RTU Bit 8: Modbus Eth Bit 9: Analog Bit 10: Relay Bit 11: Logging
Spectrum smoothing factor	?50	none	Number (dec) e.g. #50 7 *00	Matrix size of the smoothing algorithm
Spectrum average count	?52	none	Number (dec) e.g. #52 3 *00	Amount of accumulate spectres
Temperature averaging	?53	none	Number (dec) e.g. #53 4 *00	Amount of values for the average temperature
Watchdog	?88	none	Flag (boolean) e.g. #88 1 *00	0: No error 1: Watchdog raised

Channel commands

Function	Command	Parameter	Response	Description
Average temperature	?01	Ch (dec)	Flag (boolean) Temperature (dec) e.g. #01 1 195 *00	Average temperature and unread flag
Temperature	?03	Ch (dec)	Flag (boolean) Temperature (dec) e.g. #03 1 195 *00	Temperature and unread flag
Error	?07	Ch (dec)	Number (dec) Error (dec) e.g. #07 1 0 *00	0: Channel OK 1: No sensor 2: No signal 3: Signal too low 4: Signal too high 5: Channel off
Last edge	?73	Ch (dec)	Number (dec) Edge (hex)	Last measured edge
Temperature offset	?75	Ch (dec)	Offset (hex)	

Analog output commands

Function	Command	Parameter	Response	Description
Analog limits	?81	<Ch (dec)>	*(Ch (dec) LowT(hex) HighT(hex)) e.g. #81 1 FF38 012C *00	

Relay commands

Function	Command	Parameter	Response	Description
Relay limits	?82	<Ch (dec)>	*(Ch (dec) LowT(hex) HighT(hex)) e.g. #82 1 FF38 012C *00	
Relay configuration	?84	<Ch (dec)>	*(Ch (dec) Bit-Array (dec)) e.g. #84 1 3 *00	Bit 1: High limit Bit 2: Low limit Bit 3: Invert relay
Relay combination*	?85	none	K3 Bit-Array(hex) K4 Bit-Array(hex) e.g. #85 0F 0F *00	Bit X: Channel X add to logical disjunction of the relay

* only for FOTEMP T20

Logging commands

Function	Command	Parameter	Response	Description
Extended channel	?05	Ch (dec)	Flag (boolean) Temperature (dec) Timestamp	Average temperature, unread flag and timestamp:YY MM wd DD HH MM SS
Real time clock	?90	<Flag>	With flag => formatted: e.g. #90 15.07.20 15:50:00 *00 without flag => unformatted: e.g. #90 20 07 03 15 15 50 00 *00	
Device temperature	?94	none	Temperature (dec) e.g. #94 30 *00	
SD ssage and size	?96	<Flag>	With flag => formatted: e.g. #90 Usage: 32 / 976563KiB *00 without flag => unformatted: e.g. #90 32 976563 *00	
Log configuration	?97	none		

Write commands

Device commands

Function	Command	Parameter	Response	Description
Auto integration	:26	Flag (boolean) e.g. :26 1	ACK/NACK	0: Constant exposure time 1: Auto tuning
Next lamp delay	:27	Timespan (dec) e.g. :27 134	ACK/NACK	Temperatures of all channels
Spectrum smoothing factor	:50	Number (dec) e.g. :50 7	ACK/NACK	Matrix size of the smoothing algorithm
Spectrum average count	:52	Number (dec) e.g. :52 3	ACK/NACK	Amount of accumulate spectres
Watchdog	:88	Flag (boolean)	ACK/NACK	1: Reset watchdog relay
Reboot	:C2	Flag (boolean)	ACK/NACK	1: Reboot
Modbus address	:D0	Address (dec)	ACK/NACK	Modbus address
Intercommunication	:D1	Flag (boolean)	ACK/NACK	0: Intercommunication off 1: Intercommunication on

Channel commands

Function	Command	Parameter	Response	Description
Channel enabled	:10	2byte (hex) e.g. :10 0F	ACK/NACK	Bit X: Channel X activated
Integration time	:23	Channel (dec) Timespan (dec) e.g. :23 1 20	ACK/NACK	
Temperature averaging	:53	Channel (dec) Number (dec) e.g. :53 1 4	ACK/NACK	Amount of values for the average temperature
Temperature offset	:75	Channel (dec), Offset (hex) e.g. :75 1 1E	ACK/NACK	Delta to the existing offset

Analog output commands

Function	Command	Parameter	Response	Description
Analog limits	:81	<Ch (dec)> LowT(hex) HighT(hex) e.g. :81 1 FF38 012C	ACK/NACK	
Analog form	:83	Flag (boolean) e.g. :83 1	ACK/NACK	0: Voltage 1: Current

Relay commands

Function	Command	Parameter	Response	Description
Relay limits	:82	<Ch (dec)> LowT(hex) HighT(hex) e.g. :82 1 FF38 012C	ACK/NACK	
Relay configuration	:84	Ch (dec) Bit-array (dec) e.g. :84 1 3	ACK/NACK	Bit 1: High limit Bit 2: Low limit Bit 3: Invert relay
Relay combination*	:85	Relay (dec) Bit-array (hex) e.g. :85 3 FF	ACK/NACK	Bit X: Channel X add to logical disjunction of the relay
Reset watchdog relay*	:86	Flag (boolean)	ACK/NACK	

* only for FOTEMP T20

Logging commands

Function	Command	Parameter	Description
Real time clock	:90		
RTC system register reset	:91	Flag (boolean)	1: Reset RTC system registers
RTC all register reset	:92	Flag (boolean)	1: Reset all RTC registers
SD erase	:95	Flag (boolean)	1: Erase SD date
Log configuration	:97	Flag (dec) <Timespan (hex)>	0: Logging deactivated 1: Continuously logging 2: Timed logging in given interval

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