

COMMAND	PARAMETERS	DESCRIPTION
	Separate with a space between Command and the first Parameter Except as shown for Time, Date, Record Index.	
***	Escape sequence	Enter command mode from idle mode. Or Exit Test mode.
+++	Enter Radio Command Mode after Enter(CR), and +++	Press "+" 3 times, hit "Enter", then press "+" 3 more times (Quickly). "OK" will appear on the screen. AT commands must be entered within 15 seconds
rboot		Reboot the module and reset the Digimesh module.
serno		Print the hardware address of the XBee or LTE/GSM
	<assign address> 8 digits address for non-SDI C+7 digits address for SDI	SapIP serial number with leading "0"s (for non-SDI) or "C" (for SDI)
mver		Print the firmware version
time		Print the time.
	<hour:min:sec>	Set the time. All HH:MM:SS required. Stop not needed in V109
date		Print the date.
	<month/day/year>	Set the date. all MM/DD/YYYY is required
stat		Print the status of SAPIP - Prints Battery Status, Rec-num, Date, time, Log State, Comm State, Batt V, Inputs State.
start		Start the logger, exit to online data mode.
stop		Stop the logger. Allows changes to setup with: ADC, AVRS, EXSET, BATT, INTER, PDOW, FACT, ERASE, OSETS, TCAL
dreta		Print all records, starting with record 00000. Stop log required. Escape to exit.
retrn	<Record index> 1 to 5 digits.	Print all records starting with Record index, until the last record. Stop Log required. Escape to exit.
test		After every 20 seconds, a new sample is produced, without logging the sample data (FW V220 only)
drep		Print the most recent record (FW V220 only)
dlrn		Same as DREP (FW V220 only)
	<Record index> 1 to 5 digits	Print only one record with index Record index.
head		Print the record header. It will be separated by commas as the logger data.

adc		Print the channel configuration table.
	- <Channel ID (0-7)> <Type (0-4)> <Range (0-7)> <Label (5 characters)> - <Channel ID (8-9)> <Label (5 characters)>	Set analog channel configuration. TYPE – Default 0 Range 0 – Default for channel Vin (+/- 2.5 V) Range 6 - +/- .5000 mV – Default for Sap Flow channels, Ah,Bh,Vin (diff TC), for test and most significant digits (4). LABEL = Only Alpha – Numeric
avrs		Print the heater status.
	<Voltage (mV)>	Set the heater voltage.
avrs (LPM)		Print heater status
	<Voltage (mV)> <Time (s)>	Set the heater voltage and heater pre-warmup time Voltage from 0, 1500 to 9000 mV is valid Time from 0 to 1200 seconds is valid. See Chart below.
exset		Print the excitation voltage warm-up delay (milli sec).
	<Warm-up delay (ms) (0 - 4000)>	Set the excitation voltage warm-up delay.
batt		Print the battery type.
	<Battery type (9 or 12)>	Set the battery type.
inter		Print the sampling interval identifier.
	<Sampling interval identifier> (10, 15, 15p, 30, 30p, 60p, tn, tf)	Set the sampling interval identifier. Note: tf / 15p (FW V220 only)
pdow		Print the power-down configuration. Powers down heater current
	<Enable flag (Y or N)> <Power-down hour (17-24)> <Power-up hour (1-8)>	Set the power-down configuration.
fact		Set the device and channel configuration to defaults.
erase		Erase all records (takes about 20 seconds) Must stop logger first!
sdi		Reads data from all SDI devices attached
	<0>	Query device 0, normally Maximet weather station, for manufacturer & version
	<A=X>	Change SDI address of attached device from A to X
	<X=A>	Change SDI address of attached device from X back to A
	<?>	Poll attached SDI device address Note: the sdi? Command can ONLY be used with ONE SDI device connected. Otherwise, you will get an error. This command is used to find the address of an attached device when its address is unknown.

Table of Battery Status (Discharging)		
Battery Status	9V Battery (V)	12V Battery (V)
OK	BATT > 8	BATT > 10
< 10%	7.2 < BATT < 7.9	9.5 < BATT < 10
< 1%	6.4 < BATT < 7.2	6.4 < BATT < 8
Lock	5.5 < BATT < 6.4	5.5 < BATT < 8
Suspend	BATT < 5.5	BATT < 5.5

Logging Intervals & Table of Heater Warm-up Time in LPM	
Logging Interval	MAX Pre-Warmup Time Allowed (second)
TF -20 sec interval / TN – 100 sec interval	N/A
10 (HIGH_RES) – avg 10 samples x 1 min	55
15 (FINE_RES) -avg 5 samples x 3 min	175
15P (*) – 1 sample 15 min	895
30 (MED_RES) – avg 10 samples x 3 min	175
30P (MED_RES_POWER SAVING) 1 sample	1795
60P (EXTREME_POWER_SAVING) 1 sample	3595

*tf & 15P logging interval is only available for firmware V220. On agrisensors.net website, DO NOT use “10s test log” or “1min test log” options to start logger.

MODEM COMMANDS

+++<enter>

(confirm response with time of day and "M" for Modem Command Mode)

One-letter modem commands (no <enter> key required, must be all caps)

B - reboots SAPIP

to exit modem command mode, wait 1 min without typing
confirm SAPIP is back in command mode by using

stat

(confirm it responds with status)

exit

(confirm it now stops repoding to commands and requires ***)

Direct Modem Commands (AT commands)

Enter command mode:

Enter Direct Modem Command mode:

+++<enter>

+++

OK

Paste an AT command into the buffer and hit <enter>

at

OK

atcn

OK

Wait 1 min without typing and confirm you get the '\$' prompt indicating its back in debug
command
mode