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EnviroPro[®]

PRECISION SOIL PROBES

SDI-12 COMMANDS
2019 Version 1.0



Below are examples of SDI-12 commands that can be sent while in transparent mode.

*NOTE: Send commands (shown in red) *Add C command for CRC
Responses (shown in blue)*

?!
1 ; query probe address
; probe response (Address = 1)

!!
113EP100G-08 01151108151545 ; request probe ID
; probe response

!A0!
0 ; change probe address from 1 to 0
; probe response (Address = 0)

!OC!
000208 ; measure moisture with salinity
compensation
; time taken 0002 seconds, 08
sensors measured
!OD0!
0+001.84+001.52+001.58+001.61+000.96+000.04+000.00+000.05 ; read probe data
; eight moisture measurements as
a percentage % of VWC returned

!OC1!
000208 ; measure salinity
; time taken 0002 seconds, 08 sensors
measured
; read probe data
!OD0!
0+00.000+00.000+00.000+00.000+00.000+00.000+00.000+00.000 ; eight salinity measurements in ECe,
dS/m returned

0C2! 000208	; measure temperature in °C ; time taken 0002 seconds, 08 sensors measured
0D0! 0+028.06+027.97+027.90+028.08+029.05+028.77+028.05+027.02	; read probe data ; eight temperature measurements in °C returned
0C3! 000208	; measure moisture without salinity compensation ; time taken 0002 seconds, 08 sensors measured
0D0! 0+001.80+001.56+001.62+001.58+000.95+000.02+000.00+000.03	; read probe data ; eight moisture measurements as a percentage % of VWC without salinity compensation returned
0C4!	; reserved (factory use only)
0C5! 000208	; measure temperature in °F ; time taken 0002 seconds, 08 sensors measured
0D0! 0+082.48+082.30+082.22+082.49+084.26+083.61+082.30+080.39	; read probe data ; eight temperature measurements in °F returned

* Older M commands are also supported however, if number of enabled sensors exceeds nine (9) than " C " commands are recommended.

**C6 to C9 commands reserved for future features.

Extended SDI-12 commands

XU

The following SDI-12 extended commands enable remote upgrade of the EnviroPro sensor to measure EC using telemetry/loggers that support transparent mode.

Example shown below for a probe with an ID =013EP100GL-0801151108151545

In transparent mode send the extended command 0XUFBAD84! via the logger or telemetry system. Where "0" is the probe address followed by the command "XU" and then the 8 digit Xkey. (Note the upgrade Xkey is supplied separately by Entelechy on request and is not case sensitive).

0XUFBAD84!

01 PASS

Once transmitted the probe will then be upgraded to a full EC version and will return the following message:

01 PASS

The new ID will display 013EP100G-0801151108151545 con rming the probe has been successfully upgraded with EC measurements enables (G = Full EC version).

If the message 00 FAIL is received the probe ID will still show "GL" meaning the probe has not been upgraded with EC.