HILO MODULE
HOW TO MANAGE THE DTR SIGNAL

sagemcommunications

WHERE DTR IS USEFUL ?

- **DTR signal is a HILO input, it means Data Terminal Ready.**

DTR is used for :

- UART : it is a pin of the serial link
- SLEEP mode : to prevent the module to go in sleep mode (+KSLEEP)
- DATA mode : to switch from data mode to command mode

DTR AND SLEEP MODE

- **IF SLEEP MODE = 0 (AT+KSLEEP=0)**
  - **TO RECEIVE or SEND data (AT commands) DTR has to be active (low voltage level)**
  - **To go in sleep mode : Deactivate DTR (high voltage level) and wait**
  - **To wake up : Activate DTR**

- **IF SLEEP MODE = 1 (AT+KSLEEP=1)**
  - **TO RECEIVE or SEND data (AT commands) DTR has to be active or inactive**
  - **To go in sleep mode : just wait, module will decide himself (if no task is running)**
  - **To wake up : send character “0x00” then any AT commands**

Where DTR is connected ?

- DTR can be connected to :
  - DTR of the customer's application : UART management
  - DSR (Data Set Ready) of the HILO : so DTR is always active
  - Any output of the customer's application : application management

SWITCH FROM DATA TO COMMAND MODE

- If the HILO is configured (use AT&D command) to use DTR to switch :

in data mode (module is receiving data on uart) every time the DTR signal goes from active mode to inactive mode, the HILO switch in command mode.

Then if sleep mode = 0 :DTR has to be activated to send/receive command.

See appendix 11 to know about switch from data to command mode by software command « +++ »

DTR TABLE

	Switch from data to command mode	Enter in sleep mode if +KSLEEP=1	Enter in sleep mode if +KSLEEP=0
Connected to DTR of UART	Depend of customer uart management (driver)	Possible	Depend of customer uart management (driver)
Connected to DSR of HILO	Never	Possible	Never
Connected to customer's output	Possible	Possible	Possible

End of the presentation