Sensible Pick-to-Light
Application Program Interface (API)

User's Manual

VERSION : 2.0
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Within this document, we only list on the add on or general related functions to sensible pick-to-light, regarding to the other general functions, please refer the standard API user manual.

1. *Send message to Sensible Pick-to-light*

For sensible pick-to-light, we use the same function to send numerical data as the other lights.

Function AB_LB_DspNum(INTEGER Gateway_ID, INTEGER Node_addr, LONG Disp_INT, BYTE Dot, INTEGER Interval)

Description : Show numeral on LED digits panel of picking tag.
Parameters :

Node_Addr: address, <0:port1, >0:port 2
Disp_INT: display data
Dot: digit points, bit1:1-st digit point, bit2:2-nd digit point
Interval
0: normal display
-1: blinking with default frequency
>0: set blinking frequency (by msec)
-2: turn off digit
-3: turn off digits and lamp and clear buffer

Example :

AB_LB_DspNum(1,-5,8,0,0) && Send numeral "8" to pick tag
1 : Gateway ID
-5: Send to picking tag of address 5 on Port 1
8: Number shown on picking tag
0: Do not display decimal point
0: Do not twinkle.

Function AB_SNR_Control(INTEGER Gateway_ID, INTEGER Node_Addr, INTEGER nControl, INTEGER Save_mode)

Description : To enbale or disable sensible PTL's Sensor. The default mode is enbaled.
Parameters :

Node_Addr: tag address, <0:port1, >0:port 2
nControl : = 0 : Disabled,
= 1 :Enabled

Save_mode : To define if store the configuration into EEPROM or not,
= 0 : don't save into EEPROM.
= 1 : save into EEPROM.

Example :

AB_SNR_Control(1, -5,0, 0) && Disable Sensor of node 5..
1: Gateway ID
-5: Send to picking tag of address 5 on Port 1
0: Disable sensor
0 : no stored into EEPROM

Function AB_SNR_SetRange(INTEGER Gateway_ID, INTEGER Node_Addr, INTEGER WorkingRange, INTEGER Save_mode)

Description : Configure the sensible PTL's working range..
Parameters :

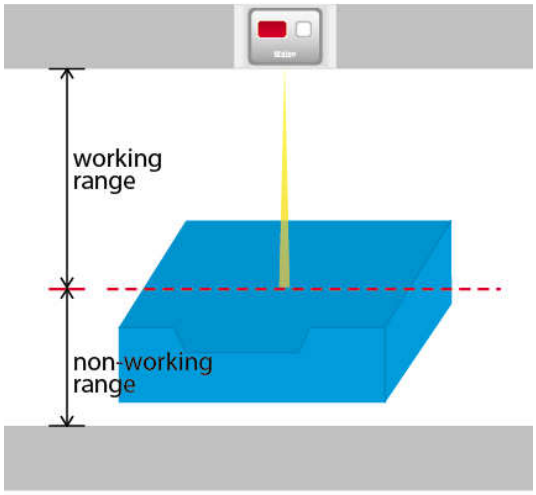
Node_Addr: tag address, <0:port1, >0:port 2
WorkingRange : Sensible PTL's working range

Save_mode : To define if store the configuration into EEPROM or not,
= 0 : don't save into EEPROM.

= 1 : save into EEPROM.

The value of working range is from 0 to 5.

0 : 10 cm
1 : 20 cm
2 : 30 cm
3 : 40 cm
4 : 50 cm
5 : 60 cm (default)



Example :

AB_SNR_SetRange(1, -5,3,1) && Configure the working range of node 5..
1: Gateway ID
-5: Send to picking tag of address 5 on Port 1
3: Working range to be 40 cm
1: Store this configuration into EEPROM

Function AB_SNR_DetectTime(INTEGER Gateway_ID, INTEGER Node_Addr, INTEGER DetectTime, INTEGER Save_mode)

Description : Configure the sensible PTL's sensor's detecting speed.
Parameters :

Node_Addr: tag address, <0:port1, >0:port 2
DetectTime : Sensible PTL's detecting speed

Save_mode : To define if store the configuration into EEPROM or not,
= 0 : don't save into EEPROM.
= 1 : save into EEPROM.

The value of detecting speed is from 0 to 5.

1 : 100 ms
2 : 150 ms
3 : 200 ms
4 : 250 ms
5 : 300 ms (default)

Example :

AB_SNR_DetectTime(1, -5,1,0) && Configure the detecting speed to 100 ms of node 5..
1: Gateway ID
-5: Send to picking tag of address 5 on Port 1
1: Detecting time to be 100 ms
0: Don't store this configuration into EEPROM

Function AB_SNR_AutoRange(INTEGER Gateway_ID, INTEGER Node_Addr)

Description : Ask the sensible PTL to auto configure its own working range.
Parameters :
Node_Addr: tag address, <0:port1, >0:port 2

Example :
AB_SNR_AutoRange(4, -9) &&
4: Gateway ID
-9: Send to picking tag of address 5 on Port 1

NOTE :

1) **Basically, by Auto-configure the working range, the working range will be down garde by one grade than the real location height detected. For example, if physical real location height is 45 cm, that means its range grade is 4 (50 cm), then working range will be 3 (40 cm)**

Function AB_SNR_AutoWarn(INTEGER Gateway_ID, INTEGER Node_addr, INTEGER AutoWarn)

Description : Configure the Sensible PTL to enable or disable the Auto-warning feature
Parameters :
Node_Addr: address, <0:port1, >0:port 2
AutoWarn : 0 : Disabled. 1: Enabled

Example :
AB_SNR_AutoWarn(1,-5,1) && Enable the Auto Warning function of Sensible PTL.
1 : Gateway ID
-5: Send to picking tag of address 5 on Port 1
1: Enabled (0 : Disabled)

NOTE :

1) **If want to enable the Auto Warning function, then need to configure the light mode to enable the keycode return feature. You can refer the function AB_TAG_mode to know how to enable key code return.**

2) **When enable the Auto Warning, if there is no any data send to the light, but hand reach into this light's specific location, the light's buzzer will turn on by a long beep sound and LED light also will turn on by CYAN color at the same time to warn user there is a mistake occurred. At the meanwhile, one key-code return message will be send back to inform which light has been triggered**

3) **Auto-warning function will be disabled automatically after the light has been sent message by AB_LB_DspNum**

Function AB_SNR_ResidualDSP(INTEGER Gateway_ID, INTEGER Node_addr, INTEGER nResidual)

Description : Configure the light to remain the number left on the LED display after confirmation, or just off. The default mode is left on the display when the LED light is off and confirmed back
Parameters :
Node_Addr: address, <0:port1, >0:port 2
nResidual : 0 : Disabled. 1: Enabled

Example :
AB_SNR_ResidualDSP(1,-5,1) && Enable the residual number display on the LED after confirmation.
1 : Gateway ID
-5: Send to picking tag of address 5 on Port 1
1: Enabled (0 : Disabled)

2. *Receiving message from Sensible Pick-to-light*

Function AB_Tag_RcvMsg (ByRef gatewayID As Long, ByRef tag_addr As Long, ByRef subcmd As Long, ByRef msg_type As Long, ByRef data As Byte, ByRef data_cnt As Long)

Description : Receive message from a specified field device.
Parameters :
Input: (sending by reference/address)
GatewayID : the designated gateway ID for receiving message
= 0: To receive message from any gateway.
> 0 : To receive message from the specified gateway. (Each Gateway is identified by an unique Gateway ID, value=1~255).
tag_addr: the designated node address for receiving message
= 0: receive from any node
= others: To receive message from the specified field device. (Each field device is identified by an unique ID, value=1~200).
Subcmd: the designated message command for receiving
= -1:receive any data,
= 0-255:designated message command
data: buffer for receiving message
data_cnt= length of receiving buffer

Output:
Gateway ID : the gatewayID where the data from.
tag_addr: the node address where data come from. < 0 : from port 1, > 0 from port 2.
subcmd: the 1-st message command (to distinguish message)
=-1:no used,
= 0-255: message command
msgtype: the 2-nd message command (only for some message, such as cmd = 64H)
=-1:no used,
= 0-255:message command
data: Received message

Return Value :
>0 -> length of the received message.
0 -> No message being received.
-1 ->: error

Example :
Dim data(200)
gatewayID = 0
node = 0
subcmd = -1
msgtype = -1
datacnt = 200
Ret = AB_Tag_RcvMsg(@gatewayID,@node, @subcmd, @msgtype, data(0), @datacnt) &&
receive data from any gateway message
If Ret > 0 && receiving one message from gatewayID
-The node value is the node address of the received message from specified “gatewayID”
Node < 0 : from port 1
Node > 0 : from port 2
-The sub-command of the received message is “subcmd” (please refer the below list)
-If the sub-command is some specified command, such as 64H, then “msgtype” will have a special meaning described as bleow.

If Ret = 0 && there is no message received.

Example :
Ret = AB_Tag_RcvMsg(2,@node, @subcmd, @msgtype, data(0), @datacnt) &&receive data from

specified gateway ID = 2
If ret > 0 : receiving one message from gateway ID = 2
If ret = 0 : no message received.
If ret < 0 : it might be there is no gateway ID = 2

Example :
Ret = AB_Tag_RcvMsg(2,-3, @subcmd, @msgtype, data(0), @datacnt) &&receive data from specified gateway ID = 2, port 1 and a specified node = 3
If ret > 0 : receiving one message from gateway ID = 2, port 1 and node address = 3
If ret = 0 : no message received.
If ret < 0 : it might be there is no gateway ID = 2 or no node address = 3

Example :
Ret = AB_Tag_RcvMsg(@gatewayID, @node, 6, @msgtype, data(0), @datacnt) &&receive data from any gateway ID, but just sub-command = 06 message
If ret > 0 : receiving one message with sub-command = 06H
If ret = 0 : no message received.

PS : **Sub-command (subcmd) list**
There are several kinds of sub-command received, as below:
(1) 06H -> "confirmation key is pressed.
(2) 07H -> shortage situation is happened.
(3) 09H -> Device's status after sending diagnosis requirement.
(4) 0AH -> Time out,
(5) 0CH -> Un-executed command.
(6) 0DH -> Tag's some button keeps pushed when message is sent to it at the same time. That would cause the sending message to disappear.
(7) 64H ->:complex return message.

PS : **Message type (msg_type) :** Get message type when the receiving sub-command is 64h
Return Value :

= 0, it means it is the key code return, in other words could be for the any key return function.

.= 1, it means tag is busy. It is the situation that the message queued in tag not be polled back by TCP/IP controller, and at same time TCP/IP control still sends one message to it. Then the latter sending message will be drop off and return one message with sub-command = 64H and data0 is 1 to inform this situation happened.

Auto-warning

When Keycode return is enabled and Auto-warning is enabled, too. The Auto-warning is triggered, then one message back will be sent back with sub-command = 64H, Message type = 07H and the first byte of the data is 00H.

Less than working range

When sending data to sensor light, it will detect the distance once. If the detected distance is less than the configured value of working range, then one message will be sent back with sub-command = 64H (100), Message Type = 07H. and the first byte of the data is 03H

Auto configure range

When using **AB_SNR_AutoRange** to ask the sensible PTL to Auto-configure its working range, then one message back will be sent back with sub-command = 64H, Message type = 07H and the first byte is 01H, second byte means the working range value. The value is from 0 to 5,
0 : 10 cm
1 : 20 cm

2 : 30 cm
3 : 40 cm
4 : 50 cm
5 : 60 cm

If the detected distance is more than 60 cm,, then the light will configure the working range to be 5 (60 cm) automatically and send back the above message with value = 5, meantime, another message will be sent back with sub-command = 64H (100), Message Type = 07H and and the first byte of the data is 02H. to inform this out of range situation.