DSEControl

SYSTEM LED

1 OVERVIEW

NOTE: Not all devices include the *System LED*. See section entitled *Compatibility*,

It is often required that the application controls the System LED of the device, for example to indicate certain conditions. This documents describes how to achieve this, however internal device fault status cannot be overridden and continue to operate the status LED when applicable.

2 CODESYS

2.1 LIBRARY

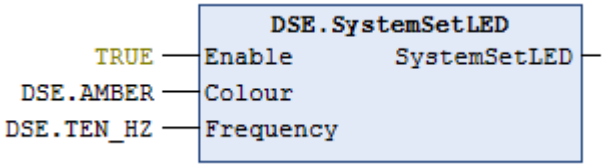
NOTE: For DSEM240 and DSEM812 see the relevant subsection within *Compatibility* elsewhere in this document.

SystemSetLED function is contained within the *DSE Standard Library (Deep Sea Electronics)* with CODESYS Namespace *DSE*.
This is installed as part of the *DSE CODESYS Package*, available from www.deepseaplc.com.

2.2 SYSTEMSETLED

NOTE: For optimum application performance, call SystemSetLED only when a change of LED colour is required.

2.2.1 FUNCTION BLOCK DIAGRAM



2.2.2 STRUCTURED TEXT

```
DSE.SystemSetLED(Enable := TRUE, Colour := DSE.AMBER, Frequency := DSE.TEN_HZ);
```

2.3 ENUMS

2.3.1 DSE.LEDCOLOUR_T

Name	Value
RED	0
AMBER	1
GREEN	2
BLUE	3
MAGENTA	4
CYAN	5
WHITE	6

2.3.2 DSE.LEDFREQUENCY_T

Name	Value
OFF	0
ONE_HZ	1
TWO_HZ	2
THREE_HZ	3
FOUR_HZ	4
FIVE_HZ	5
SIX_HZ	6
SEVEN_HZ	7
EIGHT_HZ	8
NINE_HZ	9
TEN_HZ	10
ON	11

3 COMPATIBILITY

NOTE: Not all devices include the *System LED*.

NOTE: Not all colours are available on all devices.

Device	System LED present?	RED	AMBER	GREEN	BLUE	MAGENTA	CYAN	WHITE
DSEM240	Yes. See section entitled *DSEM240*	✓	✓	✓	×	×	×	×
DSEM640	Yes	✓	✓	✓	✓	✓	✓	✓
DSEM643	Yes	✓	✓	✓	✓	✓	✓	✓
DSEM835	No							
DSEM840	Yes	✓	✓	✓	✓	✓	✓	✓
DSEM870	Yes	✓	✓	✓	×	×	×	×
DSEM812	See section entitled *DSEM812*							

3.1 DSEM240

DSEM240 differs from the other devices in that it is not a controller itself. DSEM240 *SystemLED* is commanded by the host controller.

3.1.1 DSEM240 J1939

3.1.1.1 LIBRARY

ConfigureLED function is contained within the *DSE J1939 Proprietary Protocol Library (Deep Sea Electronics)* with CODESYS Namespace *DSE_J1939*.
This is installed as part of the *DSE CODESYS Package*, available from www.deepseaplc.com.

```
DSE_J1939.ConfigureLED(Node:=M240[1], LED:=0, Enable:=TRUE, Colour := DSE.AMBER, Frequency := DSE.TEN_HZ);
```

3.1.1.2 DSEM40 CANOPEN

SDOs are provided to configure the M240 CANopen System LED. Values are taken from the ENUMS detailed elsewhere in this document.

Line	Index:Subindex	Name	Value	Bit length	Comment
1	16#2080:16#01	LED Colour	16#01	8	16#01 = AMBER
2	16#2080:16#02	LED Frequency	16#0A	8	16#0A = TEN_HZ

3.2 DSEM812

While DSEM812 has no *System LED,* DSEM812-02 (with buttons) has a full colour backlight illuminating the button surround. This is configurable to any colour and can be application driven to provide lighting for mood, style, prompts and alarms in addition to drawing attention to the presence of the buttons.
Device Settings includes a parameter to map a variable as shown:

Application.PLC_PRG.udiButtonColour		Keypad Backlight Colour	%QD1	UDINT		Keypad Backlight Colour (RGB value)

```
PROGRAM PLC_PRG
VAR
    udiButtonColour      :    UDINT:=16#00FF00; // RR GG BB
END_VAR
```