

## VAMP 300 series HMI alarm list

### 1 PREFACE

Communication between VAMP 321 and I/O unit(s) is being handled via two different bus:

- so-called "CAN" bus transfers:
  - trip information from I/O unit to VAMP 321
- RS-485 bus transfers:
  - active sensor information
  - sensor errors information
  - "CAN" bus error information

**Note:**

At some parts of VAMP 321 documentation the protocols used in "CAN" and RS-485 are commonly referenced as "Arcl/O" protocol, even though they differ vastly from each other.

"CAN" bus is started automatically when cable is connected between VAMP 321 and I/O unit(s). This means that VAMP 321 will automatically receive trip information from I/O units.

RS-485 communication needs to be initialized with 'Install arc sensors & I/O units' parameter from Vampset or HMI. If communication is not initialized the active sensor, sensor error or "CAN" bus error information is not transferred to VAMP 321.

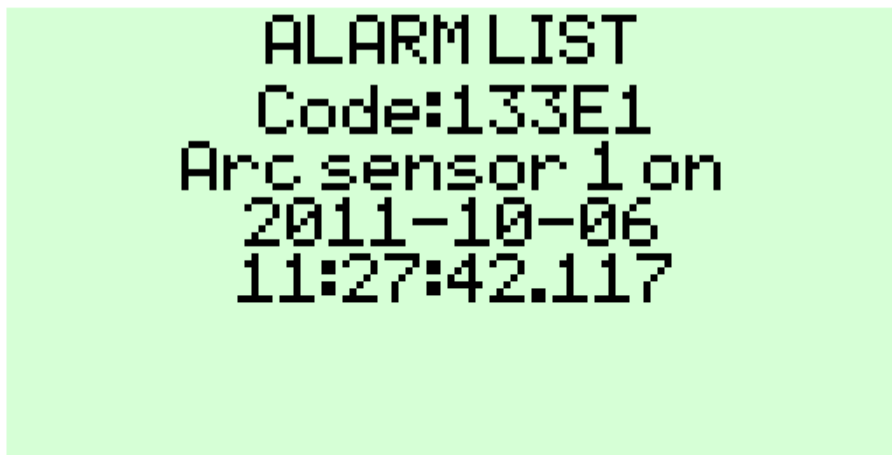
## 2 Internal arc sensors

### 2.1 ALARM LIST

ALARM LIST can be enabled:

- Vampset: 'LOCALPANEL CONF' → 'Enable alarmscreen'
- HMI: 'Evtnt' → 'Alarms'

#### 2.1.1 Activation events



```
ALARM LIST
Code:133E1
Arc sensor 1 on
2011-10-06
11:27:42.117
```

Figure 1: 'Arc sensor 1 on'



```
ALARM LIST
Code:133E11
Arc sensor 1 off
2011-10-06
11:27:43.047
```

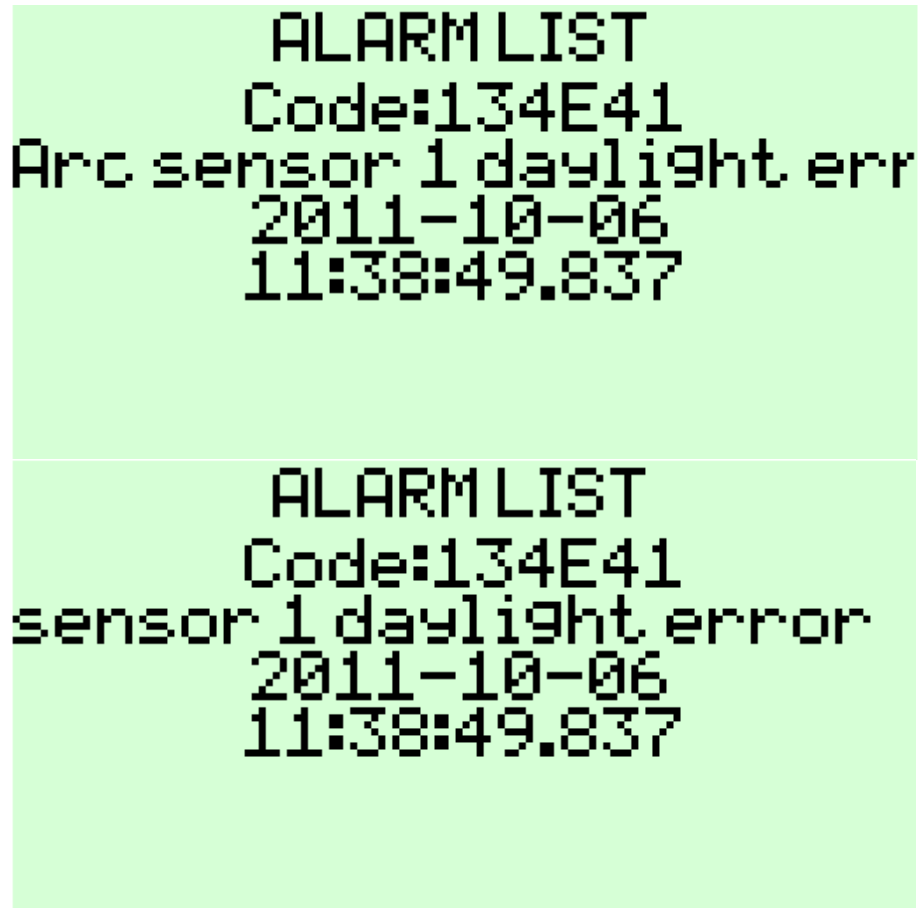
Figure 2: 'Arc sensor 1 off'

**Note:**

'Arc sensor' could also be just 'sensor' for VAMP 321, but for eg. VAMP 355 there might also be other type of sensors in the future. In that case the term 'sensor' could be confusing.

## 2.1.2 Error events

### 2.1.2.1 Daylight error



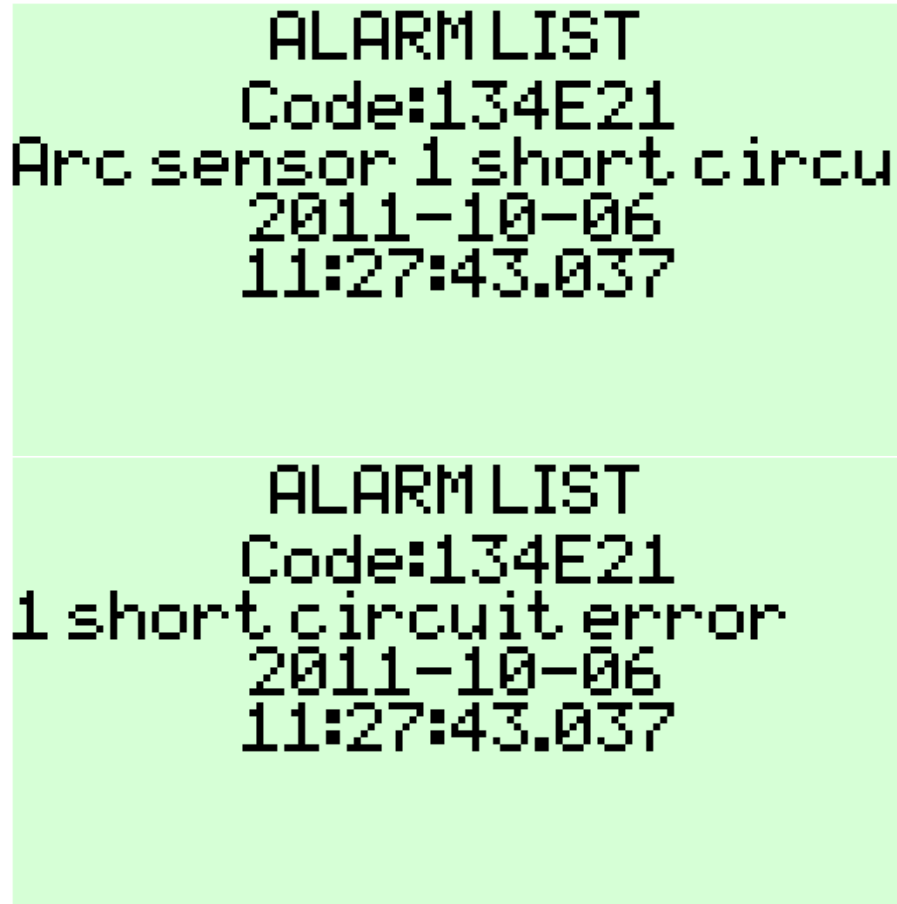
*Figure 3: 'Arc sensor 1 daylight error' (description is scrolling)*

```
ALARM LIST
Code:134E51
Arc sensor 1 daylight err
2011-10-06
11:38:53.077

ALARM LIST
Code:134E51
1 daylight error off
2011-10-06
11:38:53.077
```

*Figure 4: 'Arc sensor 1 daylight error off' (description is scrolling)*

### 2.1.2.2 Short circuit error



*Figure 5: 'Arc sensor 1 short circuit error'*

```
ALARM LIST
Code:134E31
Arc sensor 1 short circ. e
2011-10-06
11:38:44.317
```

```
ALARM LIST
Code:134E31
1 short circ. err off
2011-10-06
11:38:44.317
```

*Figure 6: 'Arc sensor 1 short circ. err off'*

**Note:**

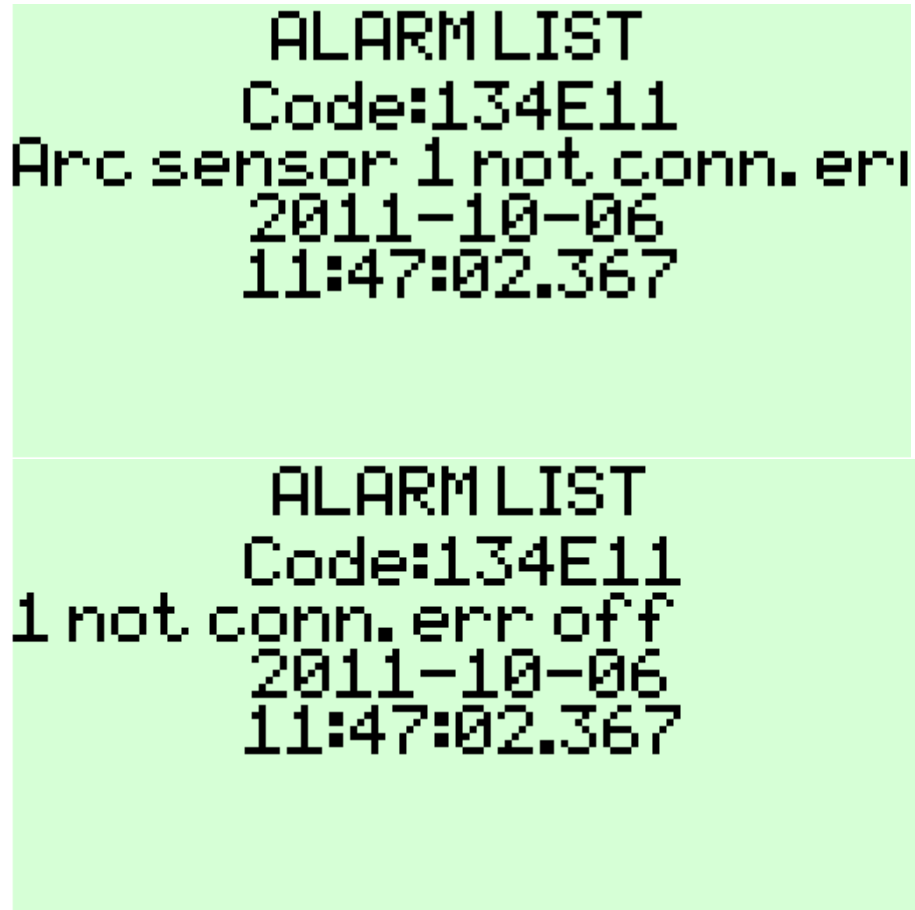
Due to the maximum allowed length of the description (32 characters, including spaces) the word 'circuit' is cut down to 'circ.'.

### 2.1.2.3 Not connected error

```
ALARM LIST  
Code:134E1  
Arc sensor 1 not conn. error  
2011-10-06  
11:45:45.907
```

```
ALARM LIST  
Code:134E1  
sensor 1 not conn. error  
2011-10-06  
11:45:45.907
```

*Figure 7: 'Arc sensor 1 not conn. error'*



*Figure 8: 'Arc sensor 1 not conn. err off'*

**Note:**

Due to the maximum allowed length of the description (32 characters, including spaces) the word 'connected' is cut down to 'conn.'

### 2.1.3 Self diagnostic events

Device's self diagnostic constantly monitors the system's status. In case of fault (eg. trip relay T1 is in fault, arc sensor in short circuit, etc.) an event describing the nature of fault is created and 'Selfdiag alarm' signal in OUTPUT MATRIX' is activated.

Self diagnostic events are:

- non-maskable.
- static, meaning that there is no way to add extra fault specific information in to them ("normal", eg. 'short circuit error' event offers an extra information about the system's current fault).

In case of arc sensors, self diagnostic event is created and 'Selfdiag alarm' signal activated in following cases:

- daylight error (sensor has seen light for more than ~4 sec.)
- short circuit
- not conn. (not connected). In order for this event to occur the particular sensor needs to be installed (user has triggered the installing routine from HMI or Vampset while particular sensor has been connected).

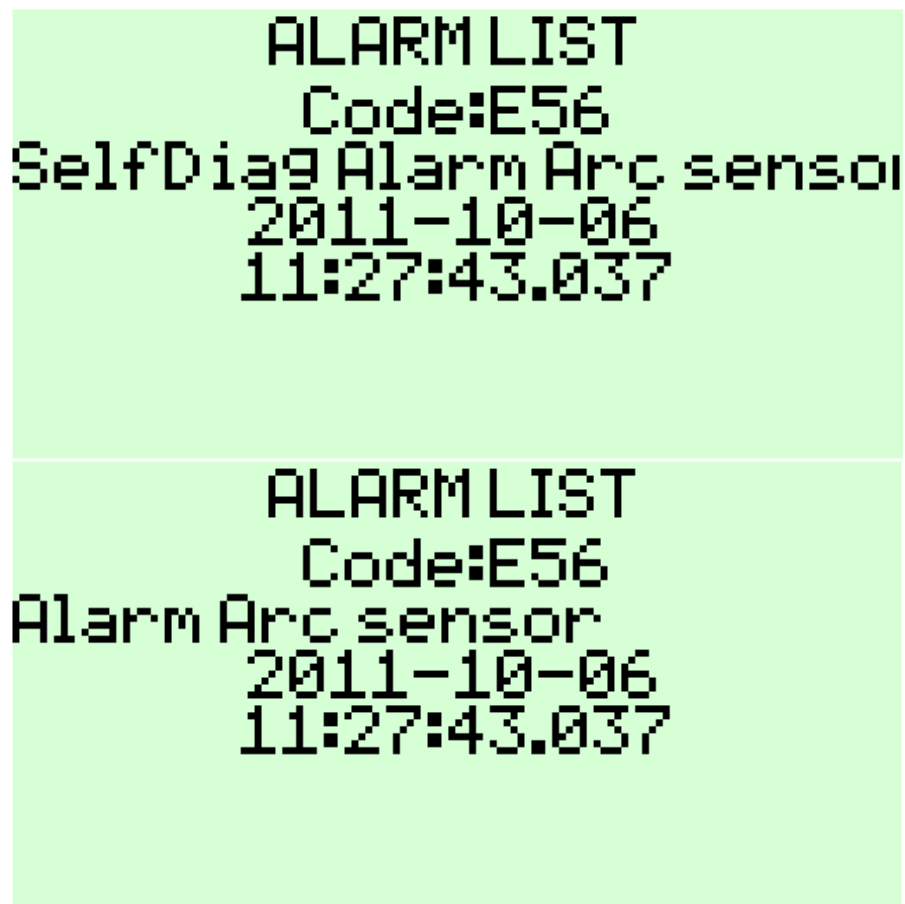


Figure 9: 'SelDiag Alarm Arc sensor'

```
ALARM LIST
Code:E57
SelfDiag Alarm Off Arc se
2011-10-06
11:38:44.317
```

```
ALARM LIST
Code:E57
Alarm Off Arc sensor
2011-10-06
11:38:44.317
```

*Figure 10: 'SelfDiag Alarm Off Arc sensor'*

**Note:**

Internal sensor's have their own selfdiag alarm events (event channel E57):

- 'Selfdiag Alarm Arc sensor'
- 'SelfDiag Alarm Off Arc sensor'

which are common for all the internal arc sensors' faults.

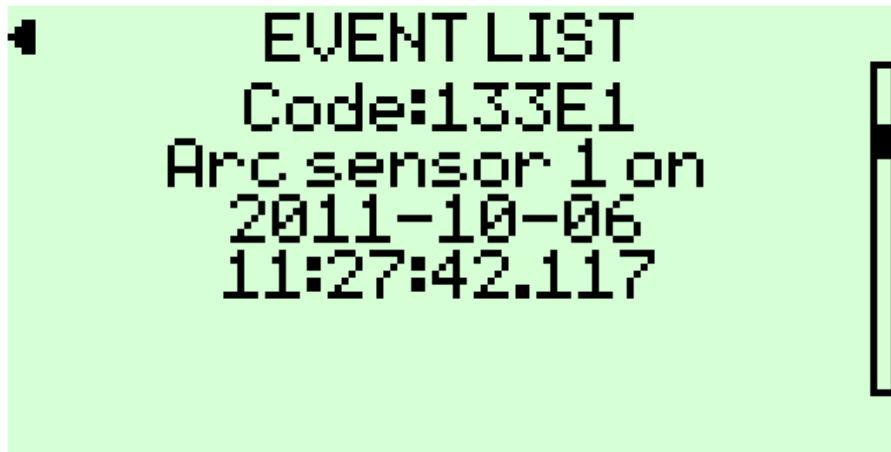
Respectively I/O unit's have their own events (event channel E56)

- 'SelfDiag Alarm I/O unit'
- 'SelfDiag Alarm Off I/O unit'

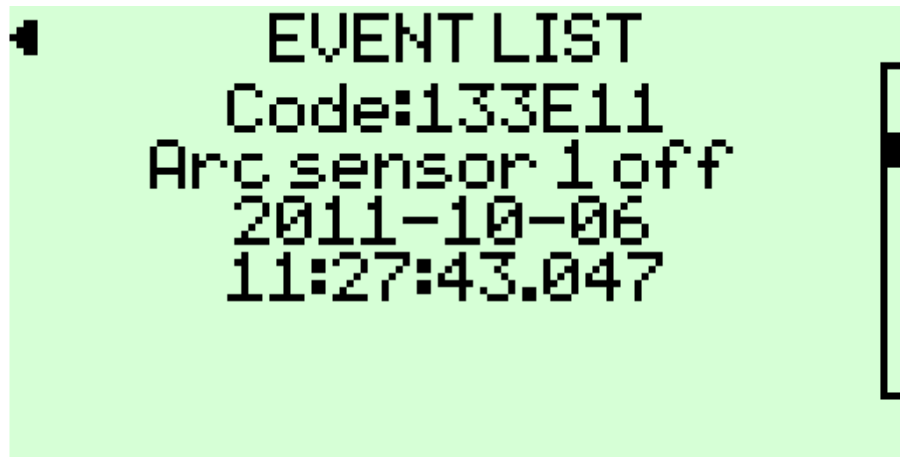
which are common for all the I/O unit faults.

## 2.2 EVENT LIST

### 2.2.1 Activation events



*Figure 11: 'Arc sensor 1 on'*



*Figure 12: 'Arc sensor 1 off'*

## 2.2.2 Error events

### 2.2.2.1 Daylight error

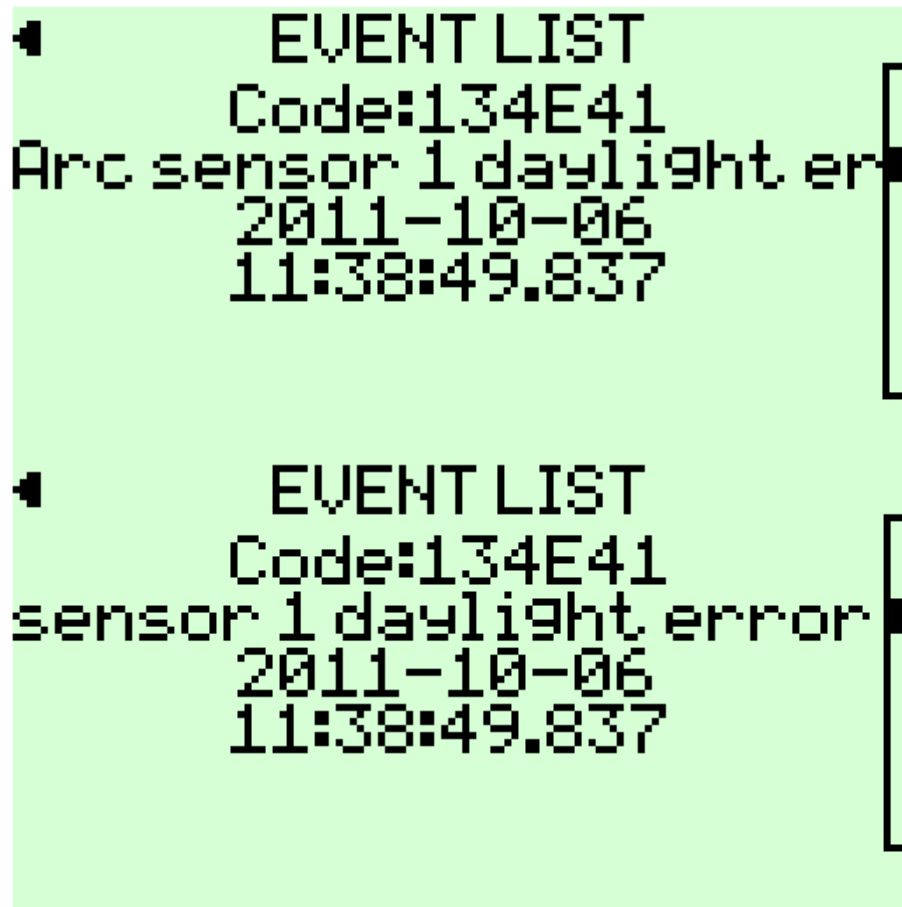


Figure 13: 'Arc sensor 1 daylight error' (description is scrolling)

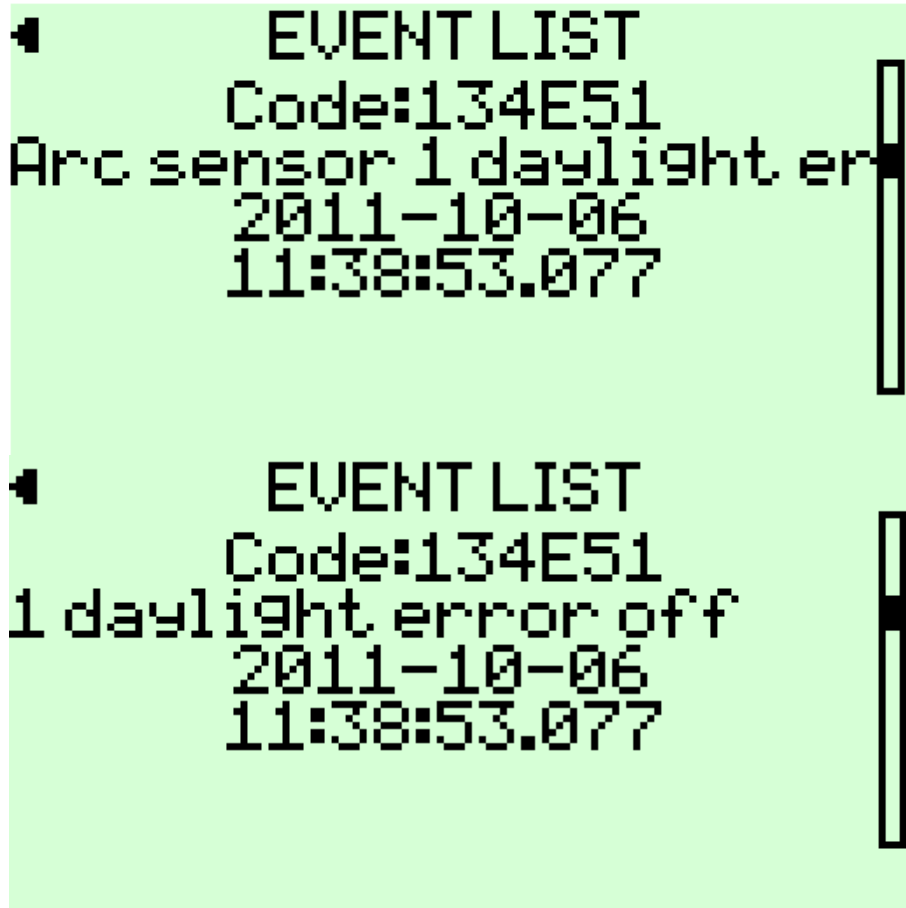


Figure 14: 'Arc sensor 1 daylight error off' (description is scrolling)

### 2.2.2.2 Short circuit error



Figure 15: 'Arc sensor 1 short circuit error'

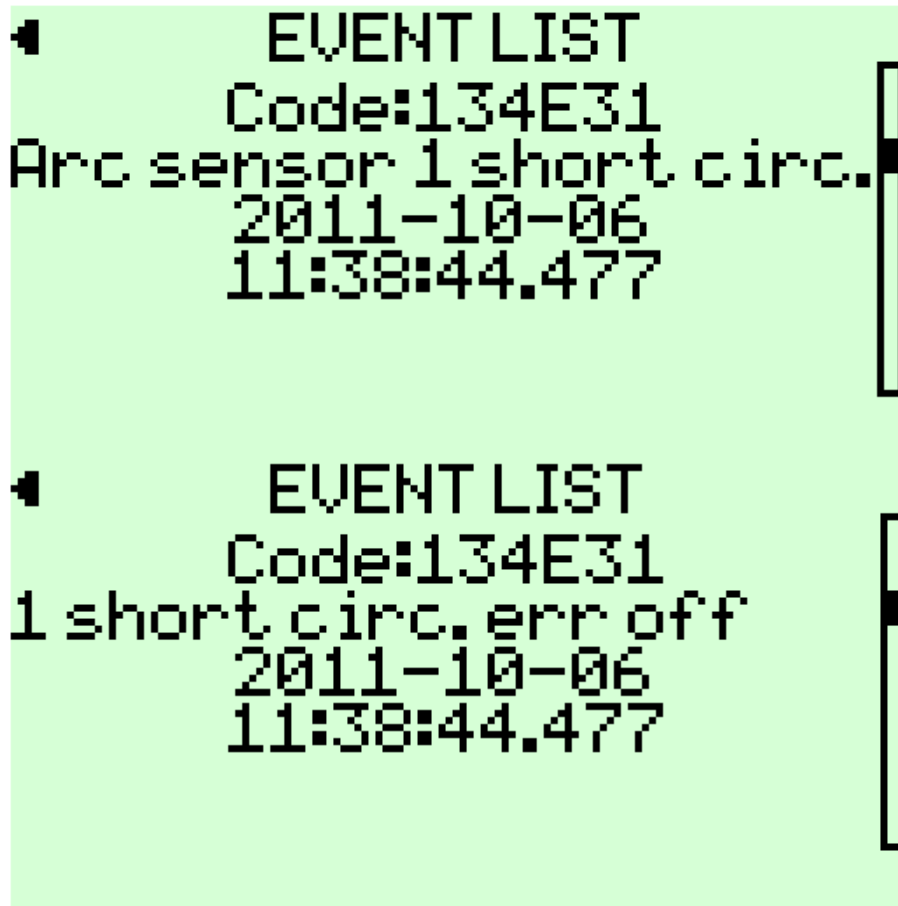


Figure 16: 'Arc sensor 1 short circ. err off'

### 2.2.2.3 Not connected error

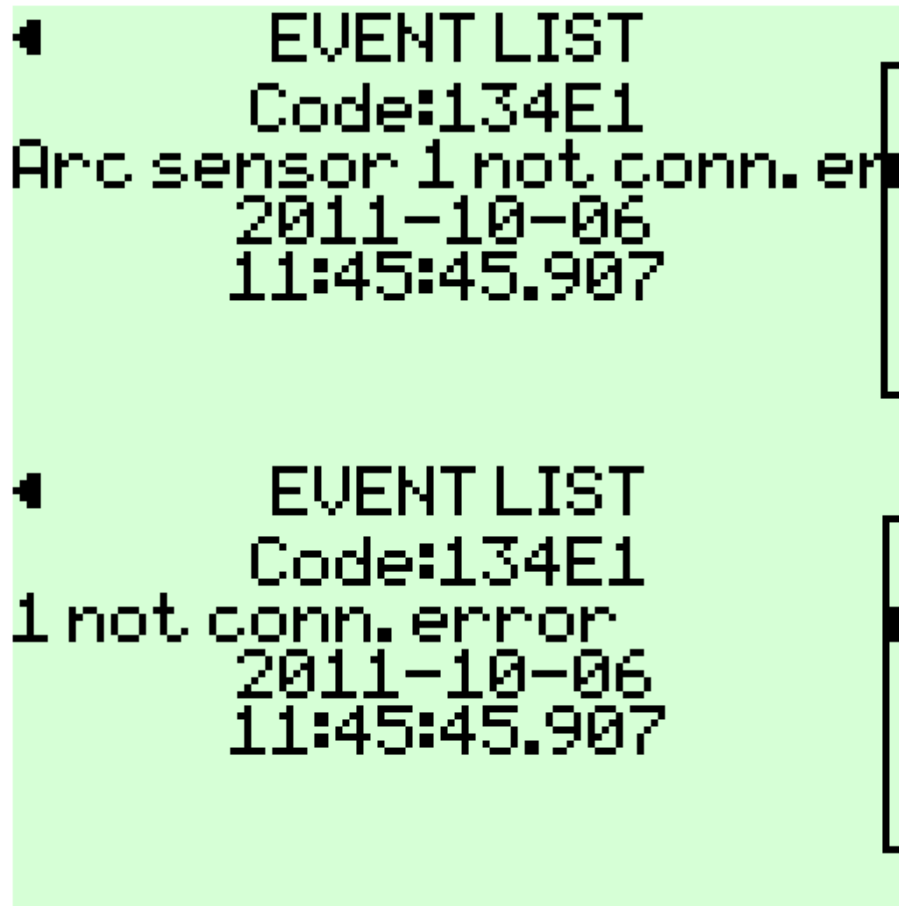


Figure 17: 'Arc sensor 1 not conn. error'

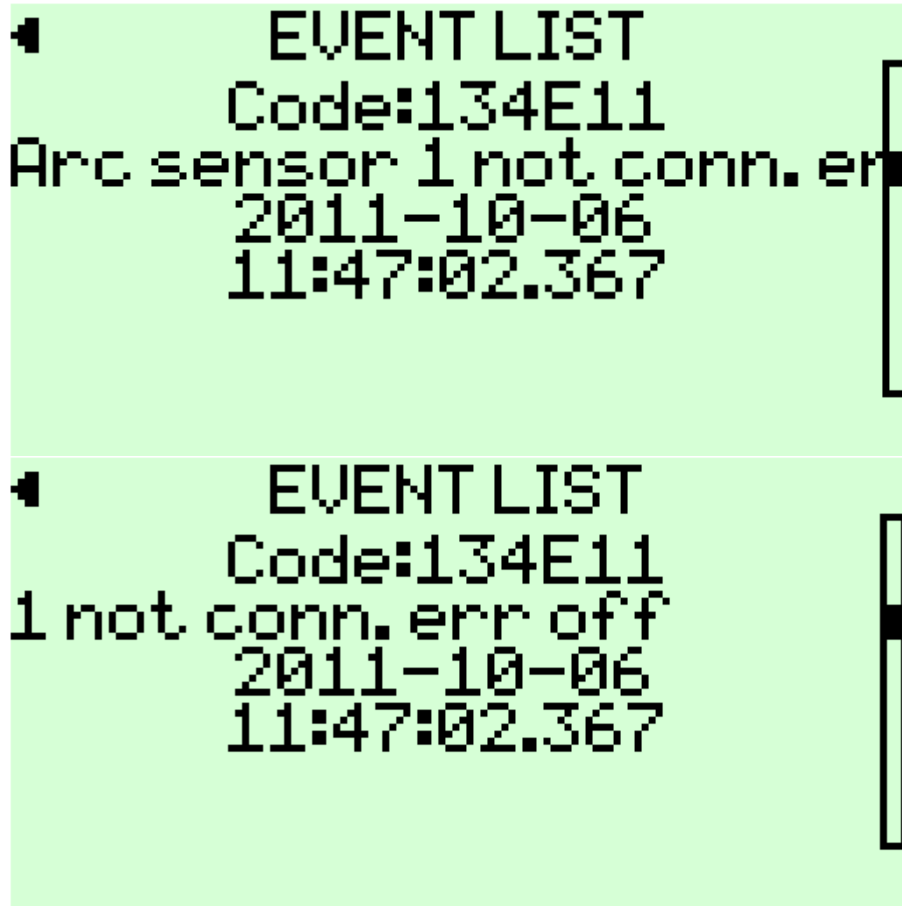


Figure 18: 'Arc sensor 1 not conn. err off'

### 2.2.3 Self diagnostic events

Arc sensor self diagnostic alarms are common for all of the arc sensor error events.

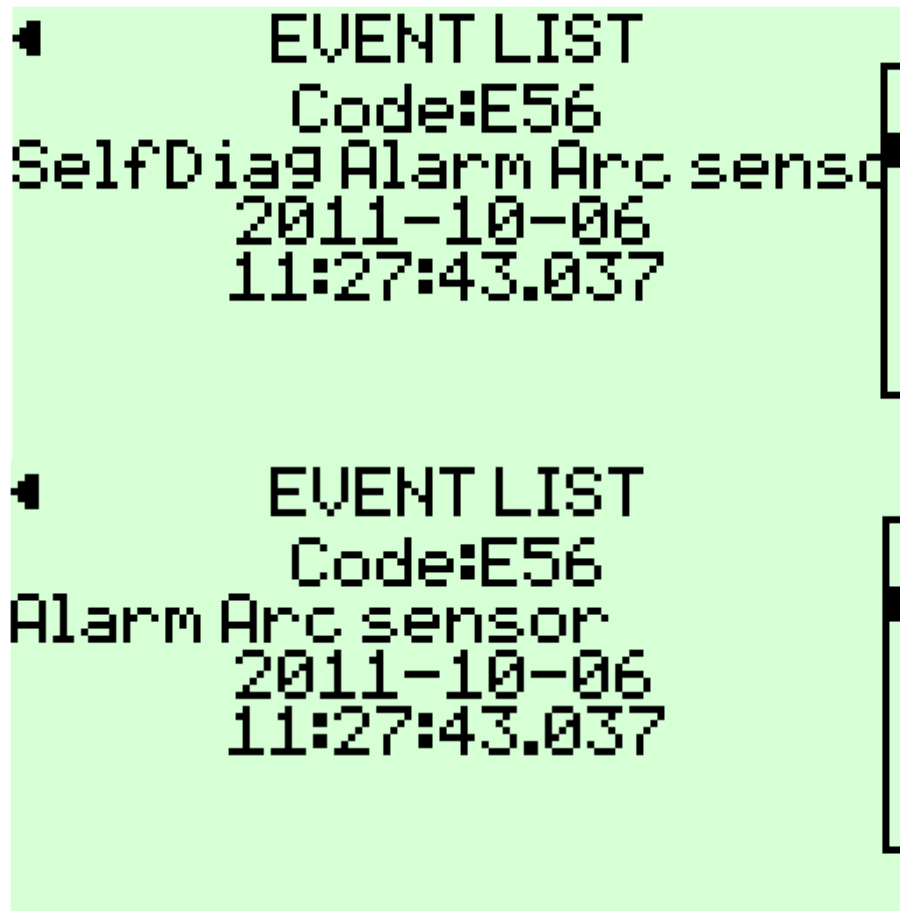


Figure 19: 'SelDiag Alarm Arc sensor'



Figure 20: 'SelfDiag Alarm Off Arc sensor'

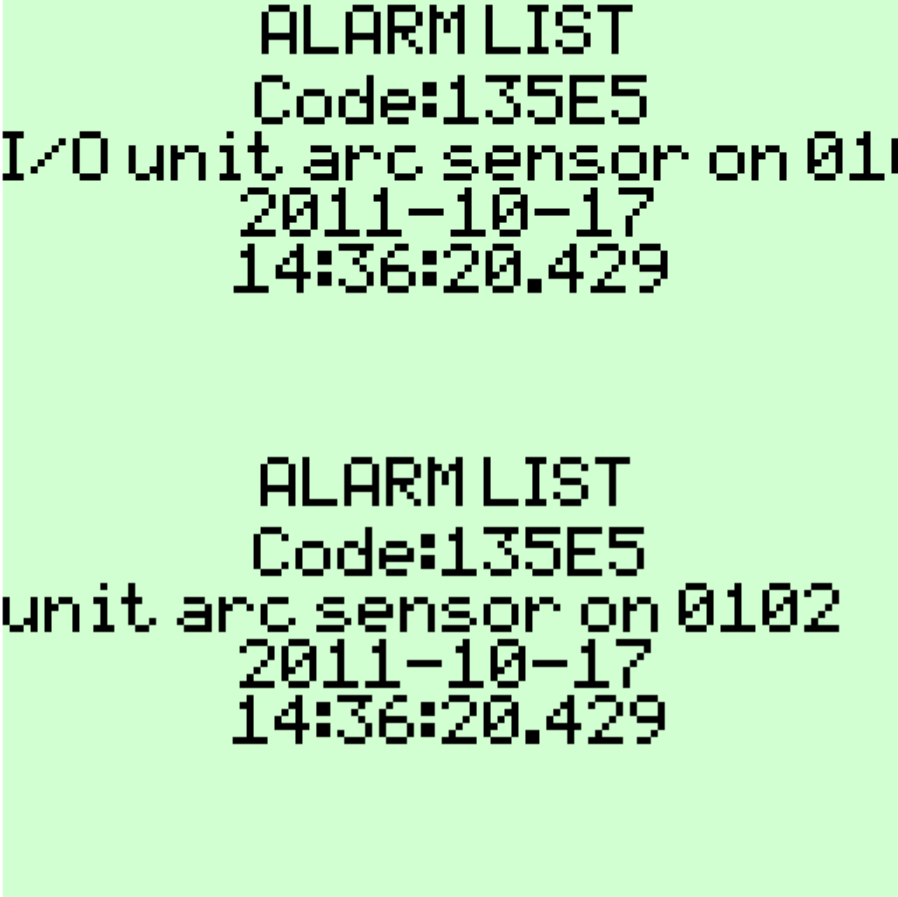
### 3 I/O unit arc sensors and current sensors

Tested I/O units:

- VAM 10L
- VAM 12L
- VAM 4C

#### 3.1 ALARM LIST

##### 3.1.1 Activation events



```
ALARM LIST
Code:135E5
I/O unit arc sensor on 0101
2011-10-17
14:36:20.429

ALARM LIST
Code:135E5
unit arc sensor on 0102
2011-10-17
14:36:20.429
```

Figure 21: 'I/O unit arc sensor on 0102' (I/O unit address 01, sensor 02)

```
ALARM LIST
Code:135E6
I/O unit arc sensor off 0.
2011-10-17
14:36:29.389
```

```
ALARM LIST
Code:135E6
unit arc sensor off 0102
2011-10-17
14:36:29.389
```

*Figure 22: 'I/O unit arc sensor off 0102' (I/O unit address 01, sensor 02)*

```
ALARM LIST
Code:135E7
I/O unit current sensor c
2011-10-17
14:39:51.429
```

```
ALARM LIST
Code:135E7
current sensor on 3302
2011-10-17
14:39:51.429
```

*Figure 23: 'I/O unit current sensor on 3302' (I/O unit address 33, sensor 02)*

```
ALARM LIST
Code:135E8
I/O unit current sensor c
2011-10-17
14:40:02.349
```

```
ALARM LIST
Code:135E8
current sensor off 3302
2011-10-17
14:40:02.349
```

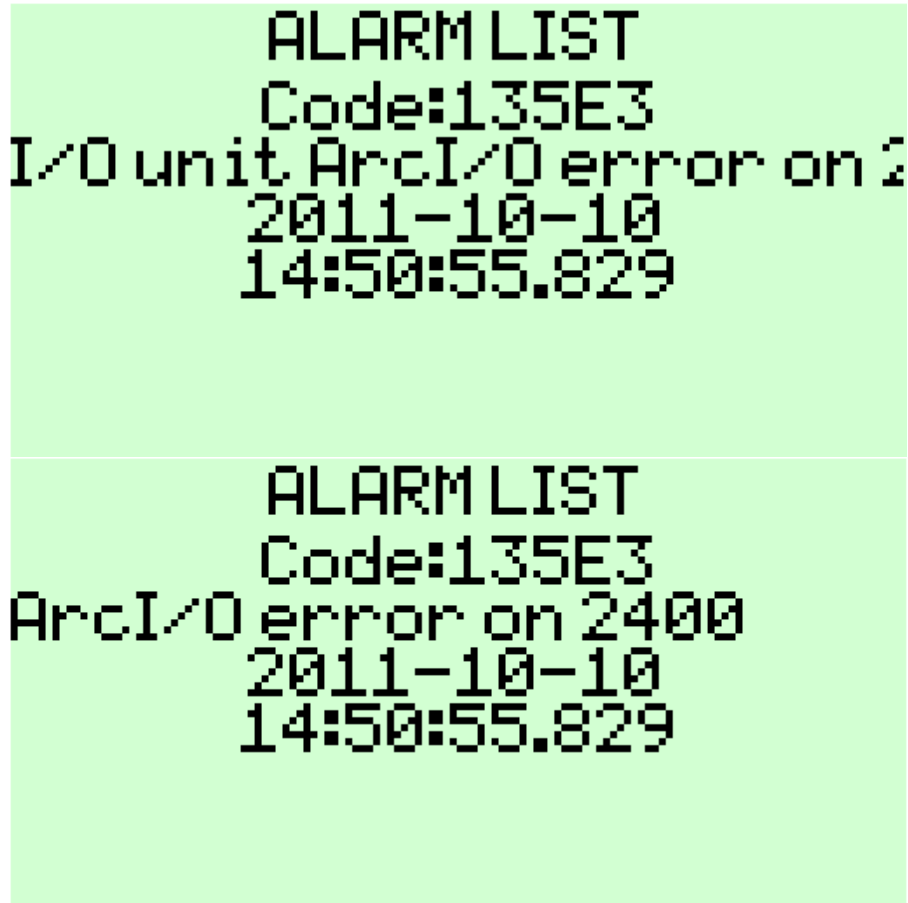
*Figure 24: 'I/O unit current sensor off 3302' (I/O unit address 33, sensor 02)*

**Note:**

'I/O unit arc sensor off...' or 'I/O unit current sensor off...' events appear only after the user has cleared the I/O units' registers from VAMP 321 (via Vampset or HMI) with 'Clear I/O units' registers'.

Respectively new 'I/O unit arc sensor on...' or 'I/O unit current sensor on...' event appear only after the previous on event has been cleared with 'Clear I/O units' registers'.

### 3.1.2 Error events



*Figure 25: 'I/O unit ArcI/O error on 2400' (I/O unit address 24)*

This error indicates an error in the so-called "CAN" bus between VAMP 321 and I/O unit. Basically it means that the I/O unit in case is not responding via "CAN" bus.

Note:

Code '2400' indicates that the error is not sensor related (sensor 00 doesn't exist in I/O unit).

```
ALARM LIST
Code:135E4
I/O unit ArcI/O error off
2011-10-10
14:54:41.589
```

```
ALARM LIST
Code:135E4
ArcI/O error off 2400
2011-10-10
14:54:41.589
```

*Figure 26: 'I/O unit ArcI/O error off 2400' (I/O unit address 24)*

```
ALARM LIST
Code:135E1
I/O unit sensor error on I
2011-10-06
12:35:58.389
```

```
ALARM LIST
Code:135E1
sensor error on 0102
2011-10-06
12:35:58.389
```

*Figure 27: 'I/O unit sensor error on 0102' (I/O unit address 01, sensor 02)*

```
ALARM LIST
Code:135E2
I/O unit sensor error off
2011-10-06
12:36:02.469
```

```
ALARM LIST
Code:135E2
sensor error off 0102
2011-10-06
12:36:02.469
```

*Figure 28: 'I/O unit sensor error off 0102' (I/O unit address 01, sensor 02)*

### 3.1.3 Self diagnostic events

```
ALARM LIST
Code:E56
SelfDiag Alarm I/O unit
2011-10-06
12:35:58.389
```

Figure 29: 'SelfDiag Alarm I/O unit'

```
ALARM LIST
Code:E57
SelfDiag Alarm Off I/O un
2011-10-06
12:36:02.469
```

```
ALARM LIST
Code:E57
Alarm Off I/O unit
2011-10-06
12:36:02.469
```

Figure 30: 'SelfDiag Alarm Off I/O unit'

## 3.2 EVENT LIST

### 3.2.1 Activation events

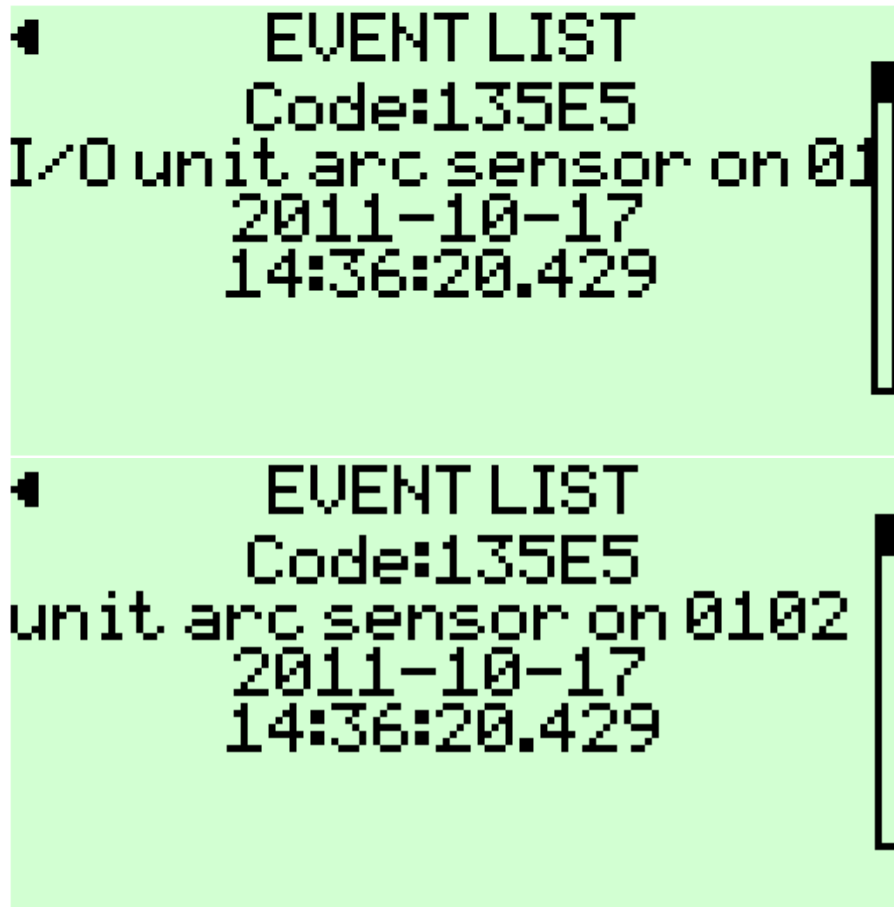


Figure 31: 'I/O unit arc sensor on 0102' (I/O unit address 01, sensor 02)

```
EVENT LIST
Code:135E6
I/O unit arc sensor off 0102
2011-10-17
14:36:29.389

EVENT LIST
Code:135E6
arc sensor off 0102
2011-10-17
14:36:29.389
```

Figure 32: 'I/O unit arc sensor off 0102' (I/O unit address 01, sensor 02)

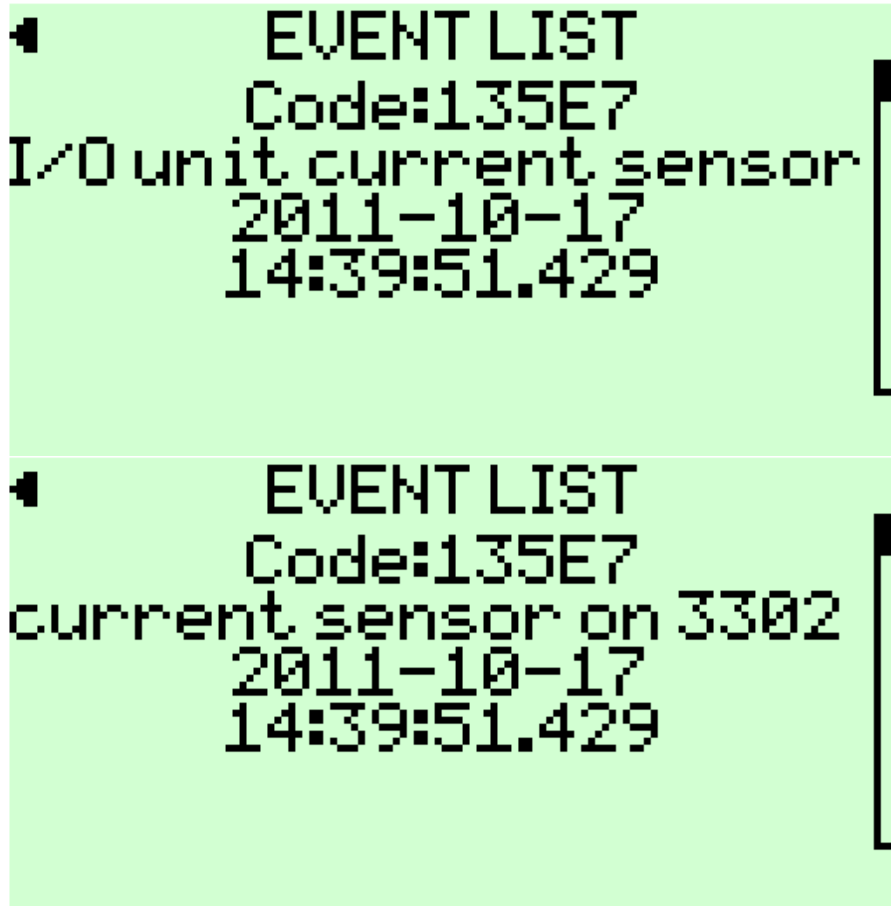


Figure 33: 'I/O unit current sensor on 3302' (I/O unit address 33, sensor 02)

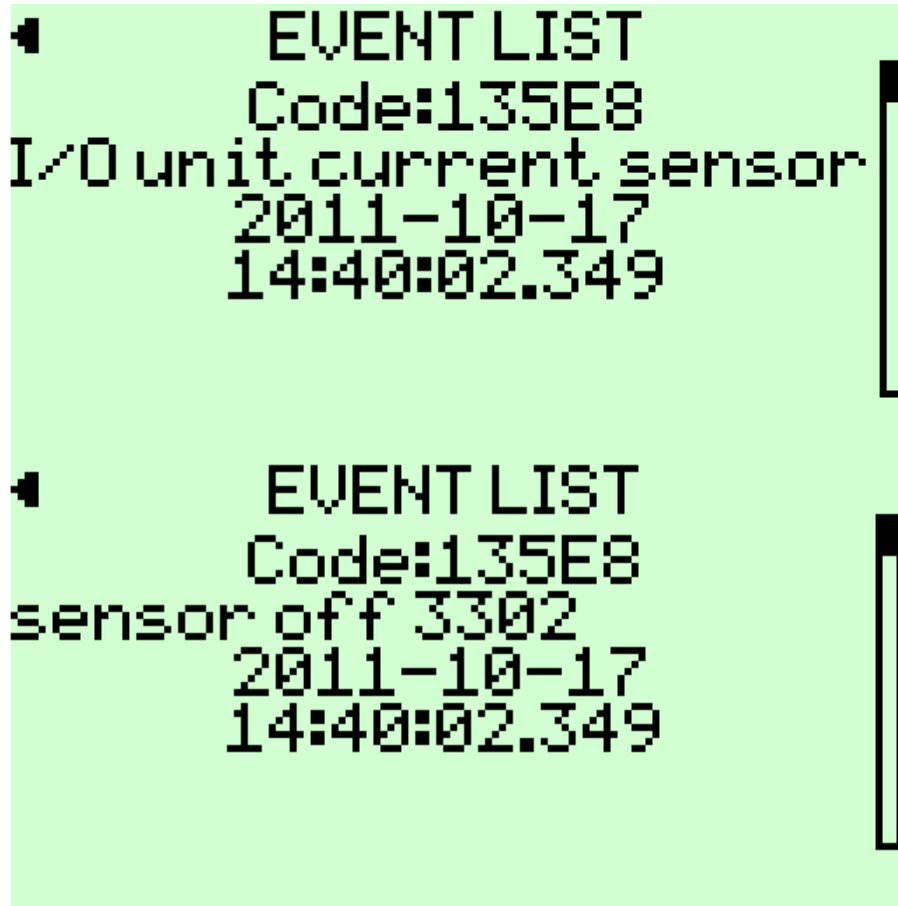


Figure 34: 'I/O unit current sensor off 3302' (I/O unit address 33, sensor 02)

### 3.2.2 Error events

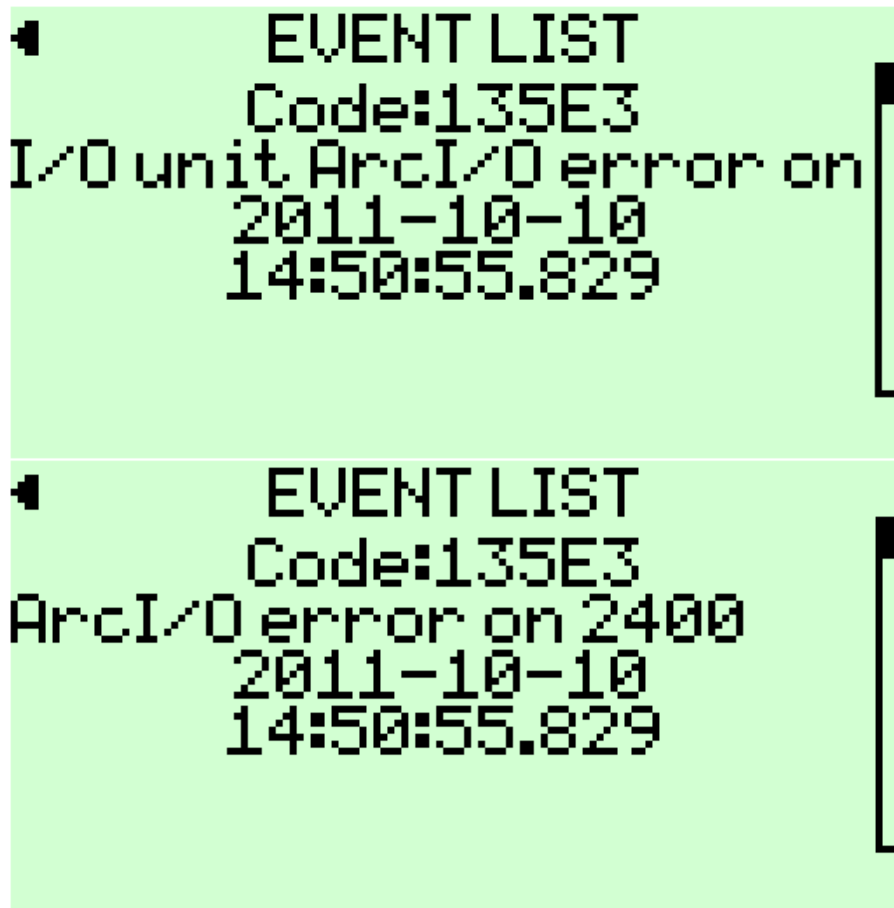


Figure 35: 'I/O unit ArcI/O error on 2400' (I/O unit address 24)

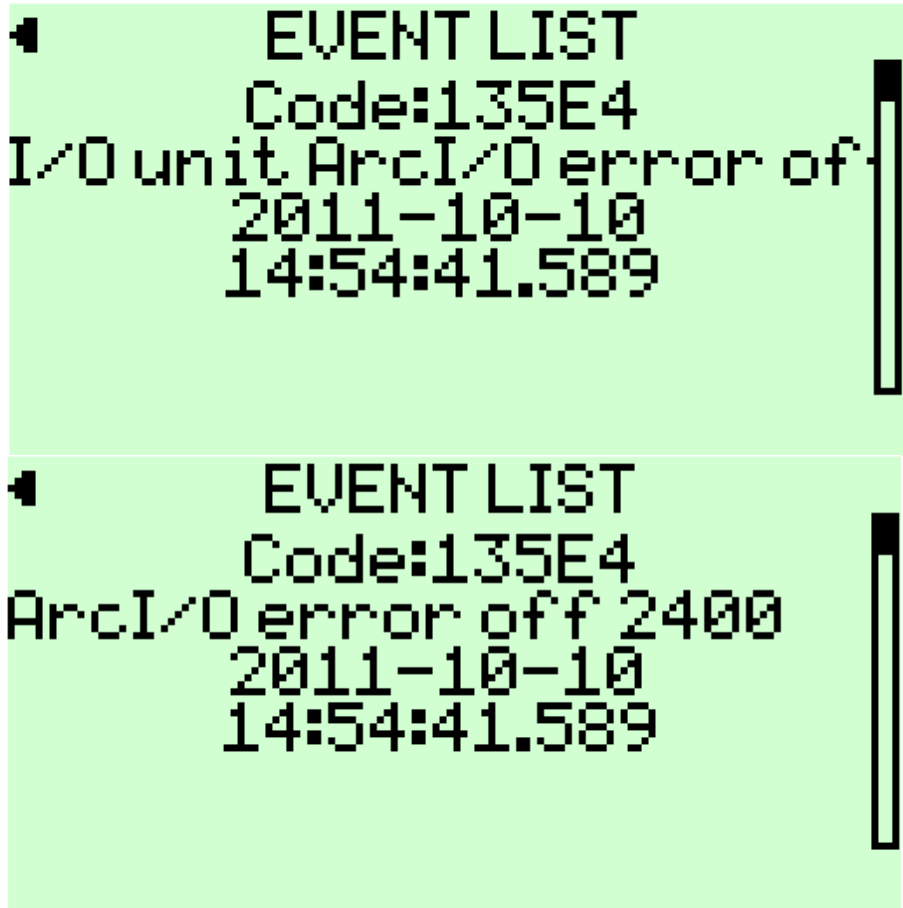


Figure 36: 'I/O unit ArcI/O error off 2400' (I/Ounit address 24)

```
EVENT LIST
Code:135E1
I/O unit sensor error on
2011-10-06
12:35:58.389

EVENT LIST
Code:135E1
sensor error on 0102
2011-10-06
12:35:58.389
```

Figure 37: 'I/O unit sensor error on 0102' (I/O unit address 01, sensor 02)

```
EVENT LIST
Code:135E2
I/O unit sensor error of
2011-10-06
12:36:02.469
```

```
EVENT LIST
Code:135E2
sensor error off 0102
2011-10-06
12:36:02.469
```

Figure 38: 'I/O unit sensor error off 0102' (I/O unit address 01, sensor 02)

### 3.2.3 Self diagnostic events

```
EVENT LIST
Code:E56
SelfDiag Alarm I/O unit
2011-10-06
12:35:58.389
```

Figure 39: 'SelfDiag Alarm I/O unit'

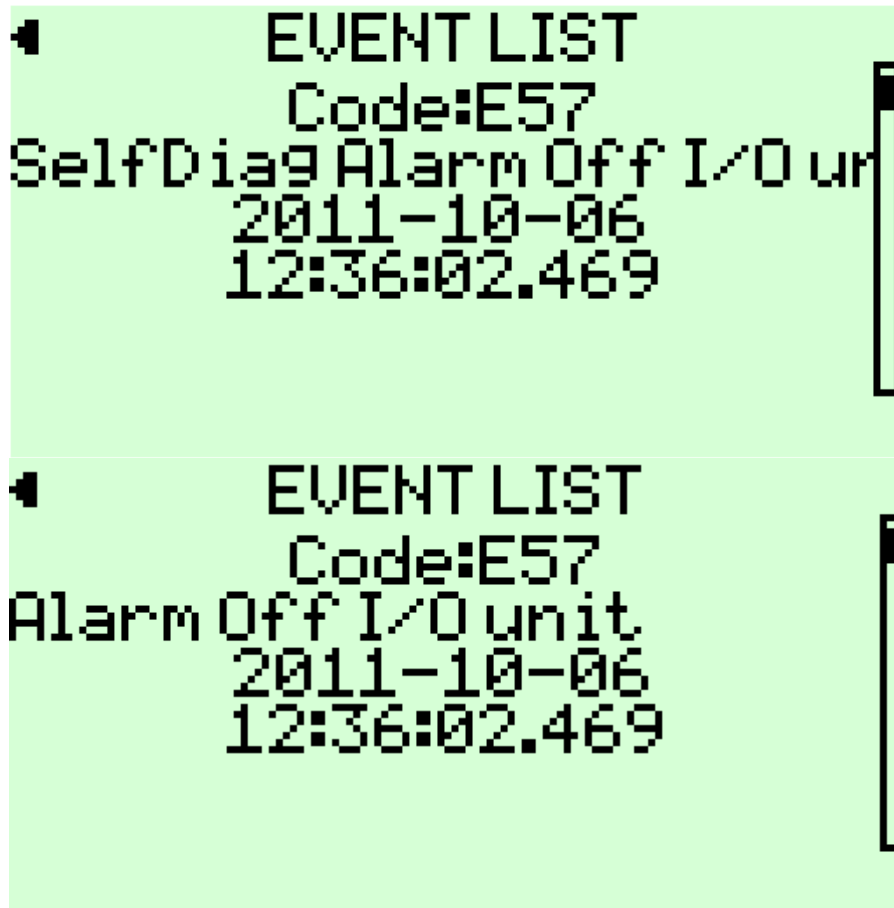


Figure 40: 'SelfDiag Alarm Off I/O unit'

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