

## 1 **RELEASE A(18) COMPONENT VERSIONS**

First release via SAP, software release version changes numeric to Alpha from this point onwards, with old numeric release shown in brackets.

Description	DK Number	Version
Instrument main code	DK0367	V02.02.14
Instrument OS Build	DK0366	V01.10.01
Instrument Boot ROM	DK0365	V01.03.01
Module Main Code	DK0364	V02.05.02
Module Boot ROM	DK0363	V02.00.00

PACE correct operation support is only with component versions installed into the product agree with the above table, except DK0363 that is only programmable at manufacture time.

### 1.1 **CHANGES**

#### 1.2 **DK0364**

Allows for RPT or TERPS reference sensor operation with barometer.  
Reference sensor not yet part of control outer loop.  
Fix bias run problem for sensors with negative ADC counts.

#### 1.3 **DK0366**

OS unused Ethernet ports blocked using firewall as result of cyber security nmap scan.

### 1.4 **APPLICABILITY OF NEW ISSUE**

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

### 1.5 **COMPATIBILITY**

Correct operation of the PACE5000 is supported only when DK component versions installed into the product agree with the above table.

### 1.6 **RELEASE DATE**

30<sup>th</sup> July 2015

**RELEASE 17 COMPONENT VERSIONS**

Description	DK Number	Version
Instrument main code	DK0367	V02.02.14
Instrument OS Build	DK0366	V01.09.00
Instrument Boot ROM	DK0365	V01.03.01
Module Main Code	DK0364	V02.04.00
Module Boot ROM	DK0363	V02.00.00

PACE correct operation support is only with component versions installed into the product agree with the above table.

## 2.1 **CHANGES**

### 2.1.1 DK0364

- Gain resolution used for RPT, TERPS & PRT sensors pressure calculation increased.

## 2.2 **APPLICABILITY OF NEW ISSUE**

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

## 2.3 **COMPATIBILITY**

Correct operation of the PACE5000 is supported only when DK component versions installed into the product agree with the above table.

## 2.4 **RELEASE DATE**

23<sup>rd</sup> March 2015

**PACE5000 SR0082 RELEASE 16 COMPONENT VERSIONS**

Description	DK Number	Version
Instrument main code	DK0367	V02.02.14
Instrument OS Build	DK0366	V01.09.00
Instrument Boot ROM	DK0365	V01.03.01
Module Main Code	DK0364	V02.03.10
Module Boot ROM	DK0363	V02.00.00

PACE correct operation support is only with component versions installed into the product agree with the above table.

### 3.1 **CHANGES**

#### 3.1.1 **DK0363**

- Code made compatible with 512Mbit NAND flash devices

### 3.2 **RELEASE DATE**

18<sup>th</sup> Sept 2013

**PACE5000 SR0082 RELEASE 15 COMPONENT VERSIONS**

Description	DK Number	Version
Instrument main code	DK0367	V02.02.14
Instrument OS Build	DK0366	V01.09.00
Instrument Boot ROM	DK0365	V01.03.01
Module Main Code	DK0364	V02.03.10
Module Boot ROM	DK0363	V01.01.00

PACE correct operation support is only with component versions installed into the product agree with the above table.

**4.1 CHANGES****4.1.1 DK0367**

- New Languages added
- New hex keypad for MAC address entry
- Pressure updates at 16 per sec

**4.2 RELEASE DATE**

11<sup>th</sup> June 2013

**PACE5000 SR0082 RELEASE 14 COMPONENT VERSIONS**

Description	DK Number	Version
Instrument main code	DK0367	V02.01.43
Instrument OS Build	DK0366	V01.09.00
Instrument Boot ROM	DK0365	V01.03.01
Module Main Code	DK0364	V02.03.10
Module Boot ROM	DK0363	V01.01.00

PACE correct operation support is only with component versions installed into the product agree with the above table.

## 5.1 **CHANGES**

### 5.1.1 DK0364

- Correct bias run start failure bug
- Correct RPT diode read error bug

## 5.2 **APPLICABILITY OF NEW ISSUE**

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

## 5.3 **COMPATIBILITY**

Software versions as detailed in 1 – Release Component Versions should be fitted to enable all features..

## 5.4 **RELEASE DATE**

27<sup>th</sup> June 2012

**PACE5000 SR0082 RELEASE 13 COMPONENT VERSIONS**

Description	DK Number	Version
Instrument main code	DK0367	V02.01.43
Instrument OS Build	DK0366	V01.09.00
Instrument Boot ROM	DK0365	V01.03.01
Module Main Code	DK0364	V02.02.13
Module Boot ROM	DK0363	V01.01.00

PACE correct operation support is only with component versions installed into the product agree with the above table.

## 6.1 **CHANGES**

### 6.1.1 DK0365

- Change to flash memory block unlock command because of Numonyx flash memory fault
- Disable boot diagnostic output on RS232 interface to prevent problems with connected equipment

### 6.1.2 DK0366

- Change to flash memory block/unlock command for Numonyx flash memory fault

## 6.2 **APPLICABILITY OF NEW ISSUE**

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

## 6.3 **COMPATIBILITY**

Software versions as detailed in Release Component Versions should be fitted to enable all features.

## 6.4 **RELEASE DATE**

13<sup>rd</sup> February 2012

## PACE5000 SR0082 RELEASE 12 COMPONENT VERSIONS

Description	DK Number	Version
Instrument main code	DK0367	V02.01.43
Instrument OS Build	DK0366	V01.08.01
Instrument Boot ROM	DK0365	V01.02.00
Module Main Code	DK0364	V02.02.13
Module Boot ROM	DK0363	V01.01.00

PACE correct operation support is only with component versions installed into the product agree with the above table.

### 6.5 CHANGES

#### 6.5.1 DK0367

- Fix memory leak problem
- added save/recall user setup files and history files to and from USB
- support for CM0 and CM1
- ethernet option as standard

#### 6.5.2 DK0364

- New CAN commands to support new UI features
- Eliminate delay in opening isolation and vent valves
- 25 mbar noise problem, Valve frequency tune now precedes the bias run

### 6.6 APPLICABILITY OF NEW ISSUE

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

### 6.7 COMPATIBILITY

Software versions as detailed in 1 – Release Component Versions should be fitted to enable all features.

### 6.8 RELEASE DATE

5<sup>th</sup> August 2011

**PACE5000 SR0082 RELEASE 11 COMPONENT VERSIONS**

Description	DK Number	Version
Instrument main code	DK0367	V02.00.07
Instrument OS Build	DK0366	V01.08.01
Instrument Boot ROM	DK0365	V01.02.00
Module Main Code	DK0364	V02.01.20
Module Boot ROM	DK0363	V01.01.00

PACE correct operation support is only with component versions installed into the product agree with the above table.

## 7.1 **CHANGES**

- 7.1.1 DK0365
- Fix to flash memory drivers to accommodate new Numonyx 65nm device

## 7.2 **APPLICABILITY OF NEW ISSUE**

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

## 7.3 **COMPATIBILITY**

N/A.

## 7.4 **RELEASE DATE**

9<sup>th</sup> March 2011



**PACE5000 SR0082 RELEASE 10 COMPONENT VERSIONS**

Description	DK Number	Version
Instrument main code	DK0367	V02.00.07
Instrument OS Build	DK0366	V01.08.01
Instrument Boot ROM	DK0365	V01.01.05
Module Main Code	DK0364	V02.01.20
Module Boot ROM	DK0363	V01.01.00

PACE correct operation support is only with component versions installed into the product agree with the above table.

## 8.1 **CHANGES**

### 8.1.1 DK0366 (V1.07.00)

- Fix to flash memory drivers to accommodate new Numonyx 65nm device

### 8.1.2 DK0366 (V1.08.01)

- Pre-calibrate touch screen
- Allow application to change MAC address

## 8.2 **APPLICABILITY OF NEW ISSUE**

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

## 8.3 **COMPATIBILITY**

N/A.

## 8.4 **RELEASE DATE**

25<sup>th</sup> Feb 2011

**PACE5000 SR0082 RELEASE 9 COMPONENT VERSIONS**

Description	DK Number	Version
Instrument main code	DK0367	V02.00.07
Instrument OS Build	DK0366	V01.06.19
Instrument Boot ROM	DK0365	V01.01.05
Module Main Code	DK0364	V02.00.44
Module Boot ROM	DK0363	V01.01.00

PACE correct operation support is only with component versions installed into the product agree with the above table.

## 9.1 **CHANGES**

### 9.1.1 DK0363

- Compatibility with new revision of microprocessor

## 9.2 **APPLICABILITY OF NEW ISSUE**

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

## 9.3 **COMPATIBILITY**

N/A.

## 9.4 **RELEASE DATE**

10<sup>th</sup> Feb 2011

**PACE5000 SR0082 RELEASE 8 COMPONENT VERSIONS**

Description	DK Number	Version
Instrument main code	DK0367	V02.00.07
Instrument OS Build	DK0366	V01.06.19
Instrument Boot ROM	DK0365	V01.01.05
Module Main Code	DK0364	V02.00.44
Module Boot ROM	DK0363	V01.00.00

PACE correct operation support is only with component versions installed into the product agree with the above table.

**10.1 CHANGES****10.1.1 DK0367**

- burst test task added
- support for VFC (volt free contact)
- new 'background thread' for XML file writes to improve communications speed
- hardware option log added
- USB comms support added
- Home key for menus added
- menus structure improved
- backlight timeout handled by OS

**10.1.2 DK0366**

- O/S now controls backlight
- Sharp LCD driver added
- CAN buffering FPGA functionality added
- Cosmetic display of MAC address improved

**10.1.3 DK0365**

- LCD autodetect added

**10.1.4 DK0364**

- Head correction now done in controller
- Improved controller performance
- Burst test functionality added
- Fix auto addressing problem if nodes have same address

**10.1.5 DK0376**

- CAN buffering implemented in FPGA

**10.2 COMPATIBILITY**

This release and releases going forward require newer PACE5000 chassis circuit board GE part IA4349.

**10.3 RELEASE DATE**

1<sup>st</sup> April 2010

**PACE5000 SR0082 RELEASE 7 COMPONENT VERSIONS**

Description	DK Number	Version
Instrument main code	DK0367	V01.05.22
Instrument OS Build	DK0366	V01.04.00
Instrument Boot ROM	DK0365	V01.00.00
Module Main Code	DK0364	V01.04.20
Module Boot ROM	DK0363	V01.00.00

PACE correct operation support is only with component versions installed into the product agree with the above table.

**11.1 CHANGES**

- Japanese units now have User Defined Units
- now only operates with CM1 controller modules
- added Maximum Working Pressure Alarm
- added Imperial Units to head correction Parameters
- text changes to UI, display matches PACE6000
- removed instrument accuracy option
- isolation valve opened at power up, even if 'No Vent' is selected
- stop controller oscillating into large volumes
- fix measurement error when barometer connected
- fix calibration date lockup problem

**11.2 APPLICABILITY OF NEW ISSUE**

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

**11.3 COMPATIBILITY**

N/A.

**11.4 RELEASE DATE**

8<sup>th</sup> Sept 2009

**PACE5000 SR0082 RELEASE 6 COMPONENT VERSIONS**

Description	DK Number	Version
Instrument main code	DK0367	V01.04.46
Instrument OS Build	DK0366	V01.04.00
Instrument Boot ROM	DK0365	V01.00.00
Module Main Code	DK0364	V01.03.39
Module Boot ROM	DK0363	V01.00.00

PACE correct operation support is only with component versions installed into the product agree with the above table.

**12.1 CHANGES**

- a) Add Pseudo Absolute range.
- b) Add SCPI communications protocol.
- c) Add backup copy of setup file so that file is not corrupted during power down.
- d) Fix controller rate problem.

**12.2 APPLICABILITY OF NEW ISSUE**

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

**12.3 COMPATIBILITY**

N/A.

**12.4 RELEASE DATE**

3<sup>rd</sup> March 2009

**PACE5000 SR0082 RELEASE 5 COMPONENT VERSIONS**

Description	DK Number	Version
Instrument main code	DK0367	V01.03.00
Instrument OS Build	DK0366	V01.04.00
Instrument Boot ROM	DK0365	V01.00.00
Module Main Code	DK0364	V01.02.00
Module Boot ROM	DK0363	V01.00.00

PACE correct operation support is only with component versions installed into the product agree with the above table.

### 13.1 **CHANGES**

- e) Fix module serial number on boot up screen
- f) Fix IEEE (not working) bug.

### 13.2 **APPLICABILITY OF NEW ISSUE**

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

### 13.3 **COMPATIBILITY**

N/A.

### 13.4 **RELEASE DATE**

15<sup>th</sup> Sept 2008

**PACE5000 SR0082 RELEASE 4 COMPONENT VERSIONS**

Description	DK Number	Version
Instrument main code	DK0367	V01.02.03
Instrument OS Build	DK0366	V01.03.00
Instrument Boot ROM	DK0365	V01.00.00
Module Main Code	DK0364	V01.02.00
Module Boot ROM	DK0363	V01.00.00

PACE correct operation support is only with component versions installed into the product agree with the above table.

#### 14.1 **CHANGES**

- g) Fix bug in lost CAN data
- h) Vent protection warning message added
- i) Various text changes

#### 14.2 **APPLICABILITY OF NEW ISSUE**

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

#### 14.3 **COMPATIBILITY**

N/A.

#### 14.4 **RELEASE DATE**

12<sup>th</sup> Sept 2008

**PACE5000 SR0082 RELEASE 3 COMPONENT VERSIONS**

Description	DK Number	Version
CONTROL MODULE BOOT CODE	DK0363	V01.00.00
CONTROL MODULE MAIN SOFTWARE	DK0364	V01.01.00
USER INTERFACE BOOT CODE	DK0365	V01.00.00
USER INTERFACE OPERATING SYSTEM	DK0366	V01.02.00
USER INTERFACE APPLICATION	DK0367	V01.01.01

PACE correct operation support is only with component versions installed into the product agree with the above table.

### 15.1 **CHANGES**

- j) Fix bug in lost CAN data
- k) Fix bug in head correction
- l) In Limits resolution increase to 4 d.p's
- m) Maximum timeout values increased
- n) Helium removed from Head Correction menu
- o) Improve bias run

### 15.2 **APPLICABILITY OF NEW ISSUE**

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

### 15.3 **COMPATIBILITY**

N/A.

### 15.4 **RELEASE DATE**

29<sup>th</sup> July 2008



**PACE5000 SR0082 RELEASE 2 COMPONENT VERSIONS**

Description	DK Number	Version
CONTROL MODULE BOOT CODE	DK0363	V01.00.00
CONTROL MODULE MAIN SOFTWARE	DK0364	V01.00.02
USER INTERFACE BOOT CODE	DK0365	V01.00.00
USER INTERFACE OPERATING SYSTEM	DK0366	V01.01.00
USER INTERFACE APPLICATION	DK0367	V01.00.01

PACE correct operation support is only with component versions installed into the product agree with the above table.

**16.1 CHANGES**

N/A.

**16.2 APPLICABILITY OF NEW ISSUE**

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

**16.3 COMPATIBILITY**

N/A.

**16.4 RELEASE DATE**

29<sup>th</sup> July 2008

**PACE5000 SR0082 RELEASE 1 COMPONENT VERSIONS**

Description	DK Number	Version
CONTROL MODULE BOOT CODE	DK0363	V01.00.00
CONTROL MODULE MAIN SOFTWARE	DK0364	V01.00.02
USER INTERFACE BOOT CODE	DK0365	V01.00.00
USER INTERFACE OPERATING SYSTEM	DK0366	V01.00.01
USER INTERFACE APPLICATION	DK0367	V01.00.01

PACE correct operation support is only with component versions installed into the product agree with the above table.

**17.1 CHANGES**

N/A.

**17.2 APPLICABILITY OF NEW ISSUE**

The issue of firmware should be used in production on the following series of instrument variants:

- PACE 5000

**17.3 COMPATIBILITY**

N/A.

**17.4 RELEASE DATE**

20<sup>th</sup> June 2008