

NCOM

(NCOM Integrated Injector)

Operation Manual

Please note this manual shows display images for reference only and the actual images may vary between injector models.
However, the operation of NCOM is the same between all models.

Applicable devices

Injectors : DUAL SHOT alpha7

CT Scanners : The NCOM feature is designed to operate with CiA DSP425 Part 2 Version 2.0.1 compliant CT scanners

*The both devices above shall comply with IEC60601-1-1.

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1. Introduction

1.1. Overview

The NCOM interlocking feature provides the necessary components to connect a Nemoto contrast delivery system to a compatible CT scanner for the purpose of synchronizing a contrast injection with the CT scan.

To utilize the CANopen(CiA425) specification features, the NCOM Hub and required cabling must be connected between the injector and CT scanner. When operating in the Control Mode, the CT scanner will monitor and control the injector. When operating in the Monitor Mode, CT scanner only monitors the injector status and does not control the injector.

1.2. Disclaimer

Nemoto shall not be liable for any malfunction as a result of using the device outside its INTENDED USE or as a result of, but not limited to, the following:


- Any malfunction or damage of this system resulting from not adhering to the Precautions for Use and operating instructions specified in this Operation Manual.
- Any malfunction or damage of this system resulting from the deviation of operating environment specified in the Operation Manual, such as power sources, installation conditions, etc.
- Any malfunction or damage of this system resulting from any natural disasters, such as fire, earthquake, flood, lightning, etc.
- Any malfunction or damage of this system resulting from use with products not approved or specified by Nemoto.

1.3. Device Disposal

Please refer to the injector Operation Manual for the proper disposal method of the NCOM device.


2. Marking

Markings used in this Operator Manual and their descriptions are as follows.

 Caution	This symbol indicates hazards which could lead to personal injury, device malfunction or property damage.
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2.1. Instruction Marking

The following symbols are used on this system.

Symbol	Description
	Symbol for "CONSULT OPERATION MANUAL"

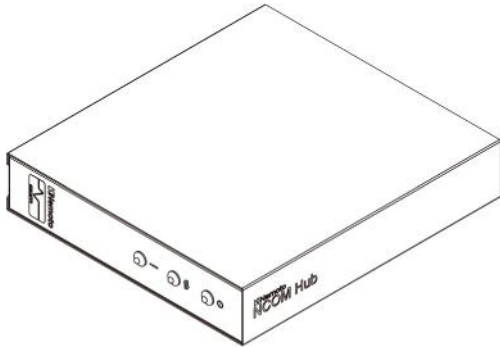
3. Precautions during use



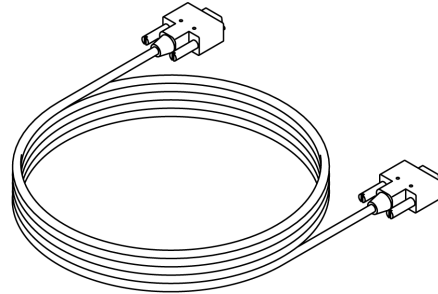
Caution

- The NCOM interlocking feature is specifically designed to connect with CT scanners that are specifically designed to conform to CANOpen CiA 425. Connections of the NCOM feature to CT scanner can only be performed by those trained and authorized by Nemoto. Connection by unqualified persons, third parties, etc. is strictly prohibited as this may result in equipment malfunction, incorrect data transmission, display or processing.
- If any of following occur, please contact the manufacturer or an authorized representative.
 - Installing, replacing or updating the NCOM.
 - Changes implemented to authorized equipment connected to the NCOM.
 - Any malfunction during use of the NCOM
- Modification to this device are strictly prohibited. Electric shock may occur if you touch the inside.
- In the event of device failure, only permit repair by trained and qualified personnel. Repair by other than trained or qualified personnel may result in patient or operator harm or may result in equipment damage.
- There is a risk of possible fire or electrical shock if usage is continued under any abnormal conditions. In the event of smoke or unusual smell(s) please discontinue use immediately and contact the manufacturer or authorized representative.
- This device must only be used in conjunction with equipment specifically approved by the manufacturer. Use with any unapproved equipment may lead to misdiagnosis, user or patient hazards or equipment damage.
- During the Control Mode operation of the NCOM, the start of the CT scan will also initiate the start of the contrast injection, however once the injection is initiated the injection will operate independently of the CT scanner. In the event the injection is stopped, the CT scan will continue and vice versa, if the CT scan is stopped at the scanner the injection will continue.

4. System Components



NCOM Hub
Network interface according
to CANopen.

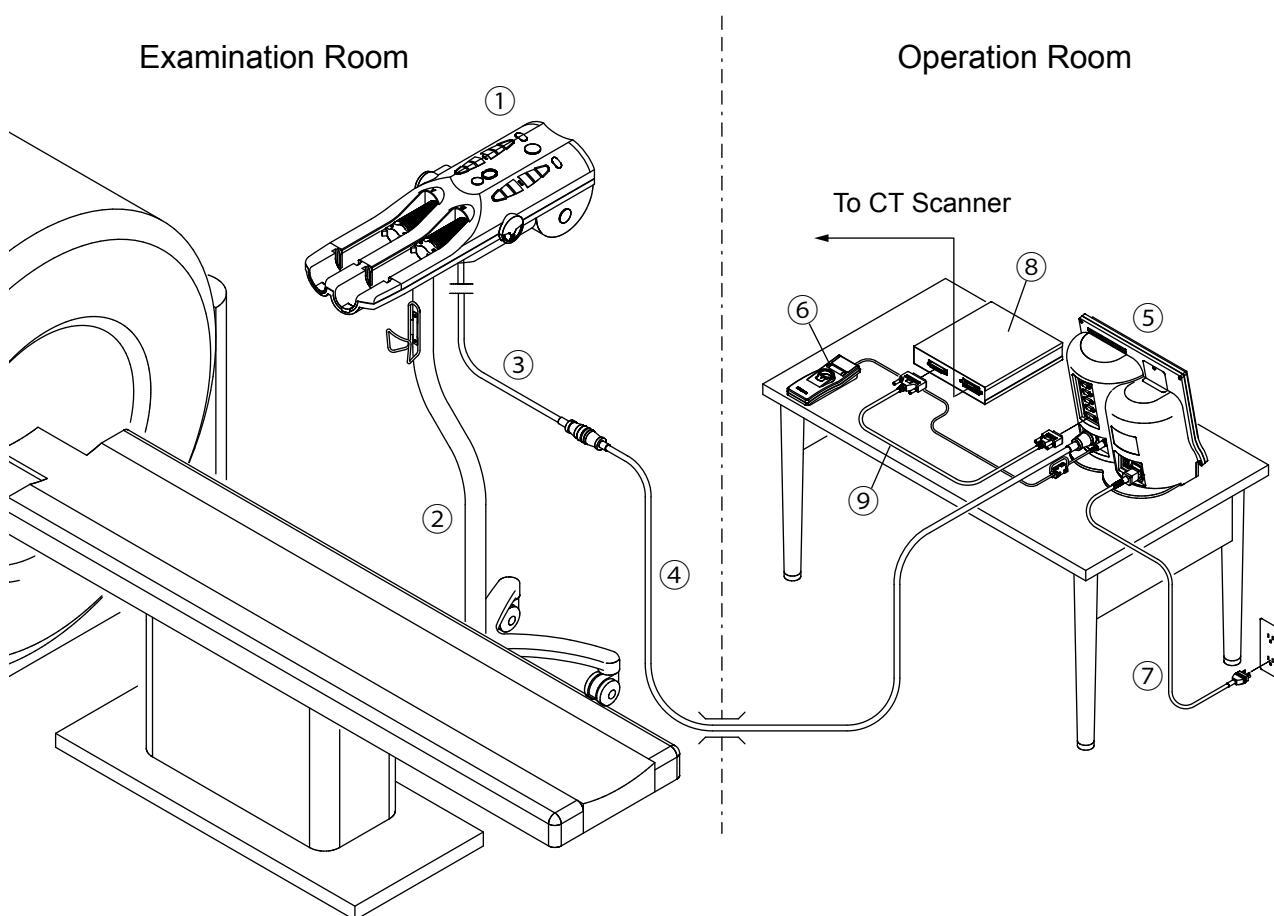


NCOM Hub Cable
Used to connect the Console
and NCOM Hub.

5. Basic Connection Diagram

Caution

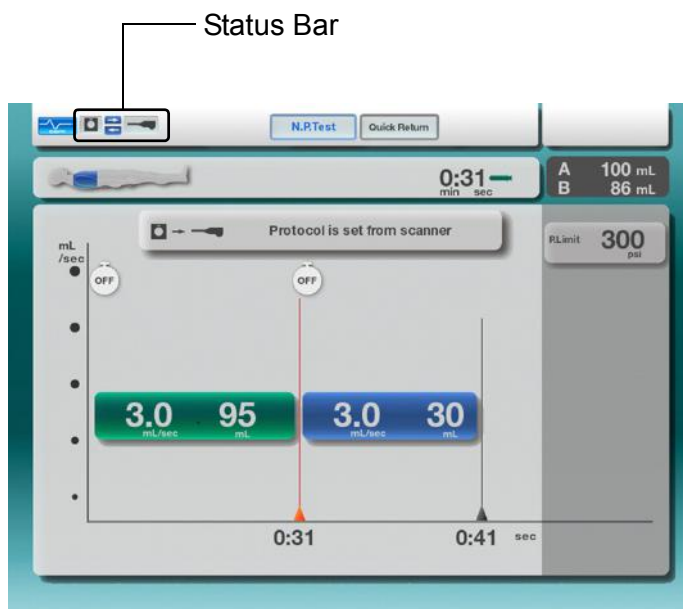
- This device follows a controlled installation procedure. The installation shall be performed by personnel trained and qualified for medical device installation. If reinstallation is required please contact Nemoto or your authorized representative.
Installation by other than trained or qualified personnel may result in injury to the patient, operator or result in equipment damage.



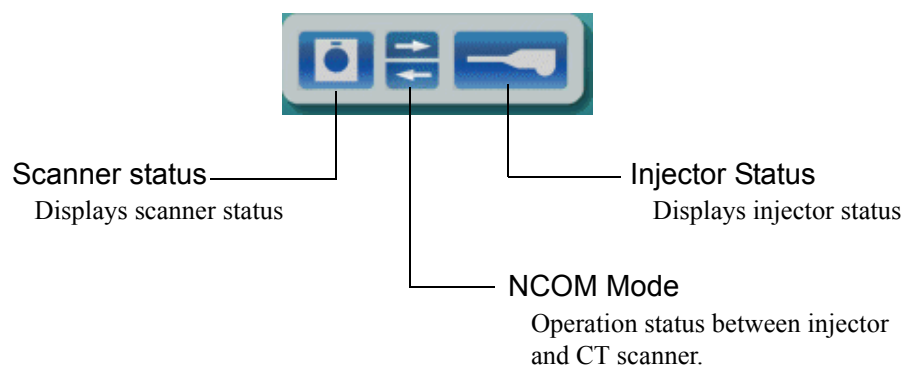
- | | |
|-----------------------------|------------------|
| ① Powerhead | ⑦ Power Cable |
| ② Remote Stand | ⑧ NCOM Hub |
| ③ Powerhead Cable | ⑨ NCOM Hub Cable |
| ④ Powerhead Extension Cable | |
| ⑤ Console | |
| ⑥ Switch Box | |

6. NCOM Status Bar



The NCOM Status Bar will be displayed when NCOM functions are active. Then, injector status can be observed by the status bar indication.







【 Details of status indication 】



【 Explanation of icon color 】

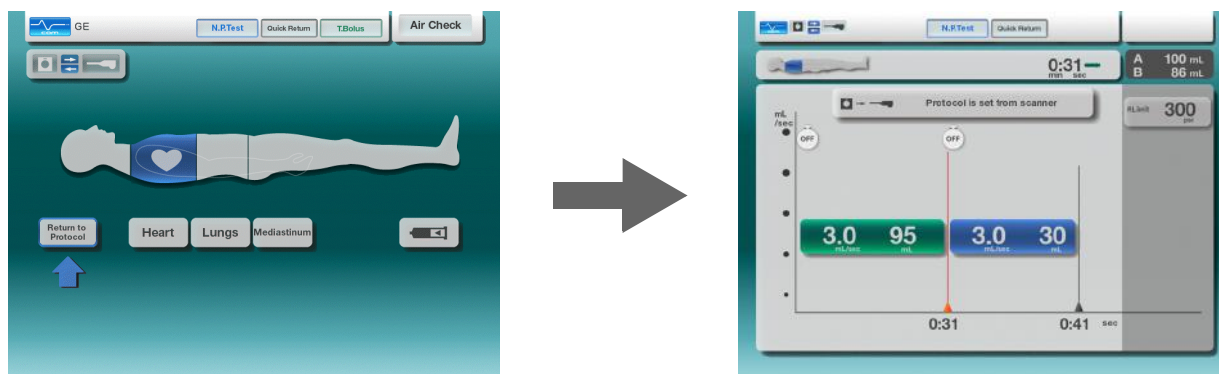
-  Ready status
-  Not ready status

Control Mode Indications

Status Bar	Status
	[Injector: Ready] [CT Scanner: Ready] Injection start is ready
	[Injector: Not Ready] [CT Scanner: Ready] Injection start is not ready Causes: <ul style="list-style-type: none"> - Air Check has not been pressed - Protocol parameters are unacceptable
	[Injector: Ready] [CT Scanner: Not Ready] Injection start is not ready Cause: <ul style="list-style-type: none"> - CT scanner is not ready to start scan
	[Injector: Not Ready] [CT Scanner: Not Ready] Injection start is not ready Cause: <ul style="list-style-type: none"> - CT scanner is not ready to start scan - Air Check key has not been pressed - Protocol parameters are unacceptable

7. N.P. Test

The N.P.Test injection can be accessed even if the protocol has been set from the CT scanner. Upon completion of a N.P.Test injection, the current protocol will be concealed. Pressing the "Return to Protocol" button, the previous protocol will appear again.

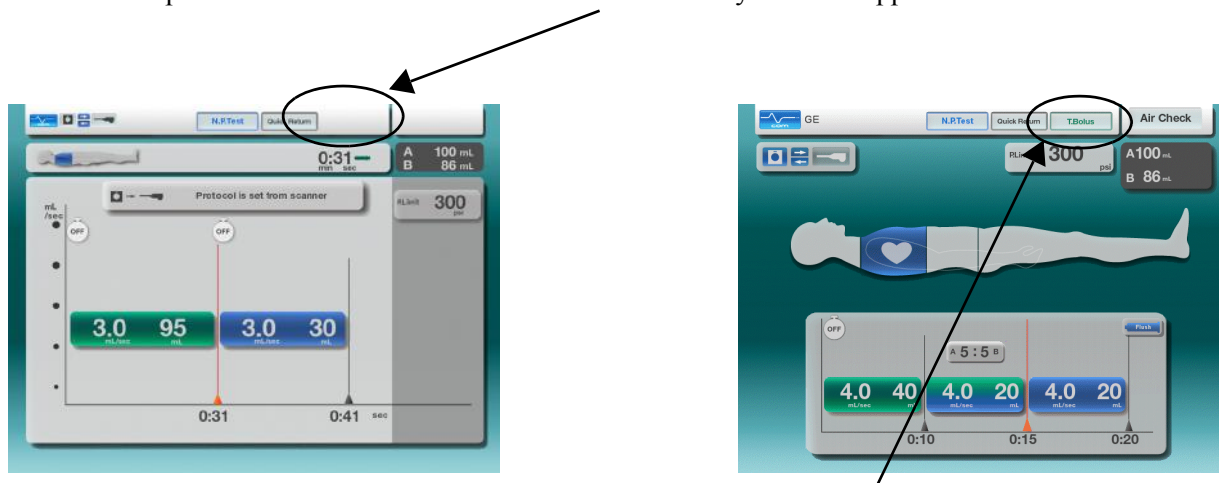


8. T.Bolus

The operation of the T.Bolus function with NCOM is different from the standard Dual Shot Alpha7 T.Bolus.

The following description applies to the T.Bolus when used with NCOM.

- If the protocol is set from the scanner the "T.Bolus" key does not appear.



- If the protocol is configured during the Body Weight Mode "T.Bolus" appears.
- The CT scanner will recognize "T.Bolus" as a protocol. It is not differentiated as a separate function.

9. Message Screen



When an abnormality exists between the Console and the NCOM Hub, the message on the left is displayed.

- Pressing "Return" will cause the injector to work in standalone mode.
- To resume NCOM operations with CT scanner, correct problem and cycle injector power.

10. Contact Information

If there are any questions or concerns relating to this information please consult the Operation Manual or the Service and Parts Manual. Please feel free also to contact the manufacturer or any of its authorized representatives:

Manufacturer

Nemoto Kyorindo Co., Ltd.
2-27-20 Hongo, Bunkyo-ku
Tokyo 113-0033 Japan

Telephone: 81-3-5842-8571

FAX: 81-3-5842-8589

Authorized Representative (EU)

Medicor International NV
Wingepark 5B - 101
3110 Rotselaar
Belgium

Telephone: +32 16 27 18 18

E-mail: info@medicor-international.com