



# Artis one

Maintenance Instructions – System  
AX System Checkup and Maintenance

## Standards

This document is IEC 62353:2014-09 compliant.

## Document Version

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## 3 Full Maintenance

| Type of Maintenance:                            | Maintenance Interval: | Required time:      |
|-------------------------------------------------|-----------------------|---------------------|
| Full Maintenance (includes partial maintenance) | Every 24 months       | Approx. 17.75 hours |

Full maintenance is divided into four partial maintenances. These do not have to be performed in sequence.

### Partial Maintenance 1:

| Component                                      | Full Maintenance<br>(Work Time/Maintenance Interval) |
|------------------------------------------------|------------------------------------------------------|
| General Visual Check                           | 0.25 hr. / 24 months                                 |
| Image system                                   | 1 hr. / 24 months                                    |
| User Interfaces                                | 0.75 hr. / 24 months                                 |
| Wireless footswitch                            | 0.2 hrs. / 24 months                                 |
| IOB/CCOM, formerly the RTC                     | 0.5 hr. / 24 months                                  |
| MCI                                            | 0.2 hours/24 months                                  |
| Examination Room Display                       | 0.5 hr. / 24 months                                  |
| 21" Display                                    | 0.5 hr. / 24 months                                  |
| Final Work Steps                               | 0.75 hr. / 24 months                                 |
| <b>Total Work Time, Partial Maintenance 1:</b> | <b>Approx. 5 hours/24 months</b>                     |

### Partial Maintenance 2:

| Component                                      | Full Maintenance<br>(Work Time/Maintenance Interval) |
|------------------------------------------------|------------------------------------------------------|
| X-ray Generator                                | 2 hrs. / 24 months                                   |
| Upper Body Protection (optional)               | 0.25 hr. / 24 months                                 |
| DCS                                            | 0.75 hr. / 24 months                                 |
| Final Work Steps                               | 0.75 hr. / 24 months                                 |
| <b>Total Work Time, Partial Maintenance 2:</b> | <b>3.75 hrs. / 24 months</b>                         |

### Partial Maintenance 3:

| Component                                      | Full Maintenance<br>(Work Time/Maintenance Interval) |
|------------------------------------------------|------------------------------------------------------|
| Floor Stand                                    | 3.5 hours / 24 months                                |
| Final Work Steps                               | 0.75 hour / 24 months                                |
| <b>Total Work Time, Partial Maintenance 3:</b> | <b>4.25 hours / 24 months</b>                        |

**Partial Maintenance 4:**

| Component                                      | Full Maintenance<br>(Work Time/Maintenance Interval) |
|------------------------------------------------|------------------------------------------------------|
| Patient Table                                  | 3.5 hours / 24 months                                |
| Uninterruptible Power Supply (optional)        | 0.5 hour / 24 months                                 |
| Final Work Steps                               | 0.75 hour / 24 months                                |
| <b>Total Work Time, Partial Maintenance 4:</b> | <b>4.75 hours / 24 months</b>                        |

**3.1 Part 1 AXIS Smart/User Interfaces/IOB/Displays****3.1.1 Special Requirements****3.1.1.1 Required Documents**

- Angiography CB-DOC DVD, AXAN-000.801.01....

**3.1.1.2 Required Tools, Measuring Equipment and Aids**

- Protective ground wire test meter. This test meter must meet the specifications of IEC 61557/EN 61557/VDE 0413/ IEC 62353/, for example the SECUTEST® SIII general-purpose test meter or PROFITEST® 0100S-II. Order directly
- ESD equipment 97 02 606 RE999
- Lint-free cleaning cloths n.a.
- Alcohol n.a.
- Cleaning agent for plastic, glass and painted parts such as Hakapur concentrated cleaner (500 g), 96 60 648 RH999
- Brush to remove dust n.a.
- Anti-static vacuum cleaner n.a.
- Luminous density meter, 77 52 848  
such as SMfit ACT (luminous density meter)

All tools, test equipment, and aids, with the exception of the "standard installation tool kit" and the general-purpose test meter, are listed and specified in the Service Parts Catalogue (SPC).

**3.1.1.3 Required materials**

- 1 lithium battery for the imaging system, type CR2032 30 82 146
- NCU fan/battery module (last replacement > 3 years) 10 96 1600

## 5 Procedures

### 5.1 Protective ground wire test meter

#### 5.1.1 Order directly

**Info:**

- The ground wire test meter (test meter) must meet the specifications of IEC 61557 / EN 61557 / VDE 0413 / IEC 62353,

for example the SECUTEST® SIII general-purpose test meter or PROFITEST® 0100S-II; **order directly from:**

GMC-I Messtechnik GmbH

Südwestpark 15

90449 Nuremberg

Germany

Telephone +49 911 8602-0

Fax +49 911 8602-669

e-mail: [info@gossenmetrawatt.com](mailto:info@gossenmetrawatt.com)

<http://www.gossenmetrawatt.com>

### 5.2 Cleaning the TFT Displays

#### 5.2.1 Cleaning Information



Information for cleaning agents/disinfectants apply only to the display to which this document refers and not the entire system.

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Information about cleaning agents must be observed. If agents other than those listed are used, the display surface can be irreversibly damaged.

Cleaning agents may not remain on the surface for an extended period.

If this is not observed, the warranty is invalidated.

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Equipment care, cleaning and disinfection:

- The front of the display is very sensitive to mechanical damage; absolutely avoid scratches, shocks, etc.
- Promptly remove any drops of liquid that fall on it; extended contact with liquids may cause, for example, discoloration or calcium outlines on the surface.

- If there is dirt on the front of the display, clean it with a microfiber cloth and if necessary with a cleaning agent. Clean housing components only with the recommended cleaning agents.
- If a cleaning agent is sprayed directly on the display surface, make sure that any droplets that run down are wiped off with a microfiber cloth before they reach the edge of the panel.

| Active Ingredient Class                    | Tested Cleaning Agents and Disinfectants                                                           | Additional examples                     |
|--------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------|
| Alcohol                                    | Ethyl alcohol, 96%                                                                                 | Hospiset cloth<br>Microzoid liquid      |
| Aldehyde                                   | Melsitt<br>Cidex                                                                                   | Aldasan 2000<br>Kohsolin<br>Gigasept FF |
| Chloride derivative                        | Terralin                                                                                           | Quartamon Med                           |
| Disinfectants                              | Taski DS5001<br>(Diverseylever Labs)<br>Morning Mist<br>Surfanios Fraicheur Citron<br>(Anios Labs) |                                         |
| Guanidine derivatives                      | Lysoformin                                                                                         |                                         |
| Quaternary compounds                       | Incidur spray, full strength                                                                       |                                         |
| Commercially available dish-washing liquid | Tempo                                                                                              | Fairy Ultra, Pril, Palmolive            |
| Benzene                                    | Petroleum ether                                                                                    |                                         |
| Pyridine derivatives                       | Activ Spray, full strength                                                                         |                                         |
| Water                                      | Tap water<br>Distilled water                                                                       |                                         |

Tab. 10: General cleaning agents



Effective time:

The maximum time between applying the cleaning / disinfectant liquid and removal (dry wiping, for example)

If the effective time is exceeded, damage to the surfaces can occur; with the panel, this can be permanent screen damage.

| Name                     | Effective time |
|--------------------------|----------------|
| Terralin protect; 2%     | 15 min.        |
| Meliseptol rapid, direct | 60 min.        |
| Microbac tissues, direct | 30 min.        |
| Incidin Plus, 8% volume  | 15 min.        |

| Name                                                                                    | Effective time                |
|-----------------------------------------------------------------------------------------|-------------------------------|
| Melsitt, 10% volume                                                                     | 60 min.                       |
| Incidur spray, full strength                                                            | 60 min.                       |
| Perform, 3% weight                                                                      | 60 min.                       |
| Lysoformin, 2% volume                                                                   | 60 min.                       |
| Activ Spray, full strength                                                              | 60 min.                       |
| Terralin, 0.5%                                                                          | 60 min.                       |
| Ethyl alcohol, 96%                                                                      | 90 min.                       |
| Commercially available dish washing liquid: Tempo                                       | 60 min.                       |
| Boiling range - benzene, full strength                                                  | <b>Must not be used!</b>      |
| Spray disinfection<br>Disinfectant: Nocolyse<br>Quantity: manufacturer's recommendation | Information from manufacturer |

Tab. 11: Directly applied cleaning agents

## 6 Changes versus the Previous Version

| Chapter             | Section                              | Changes                                                                                               |
|---------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------|
| Full Maintenance    | Panoramic Display                    | Title changed from Cockpit to Panoramic Display.                                                      |
| Full Maintenance    | MCI                                  | A reminder added to keep F2 switched on before replacement of fan/battery module                      |
| Full Maintenance    | Checking the Operating Values        | Step sequences changed.                                                                               |
| Full Maintenance    | DCS                                  | Added torque required for DCS installation                                                            |
| Full Maintenance    | Floor Stand                          | Replaced Tube Cover Force Sensor Adjustment with Perform Stand Test                                   |
| Partial Maintenance | Floor Stand                          | Replaced Tube Cover Force Sensor Adjustment with Perform Stand Test                                   |
| System Checkup      | DCS                                  | Added a reminder to check the DCS tube covers about buckle fastening and its replacement solution     |
| System Checkup      | Final Work Steps                     | Updated the reminder to check the DCS tube covers about buckle fastening and its replacement solution |
| General Information | Product-specific Safety information  | Service key updated                                                                                   |
| Full Maintenance    | Cockpit (option)                     | Deleted the reference to the Monitor Replacement Document                                             |
| Full Maintenance    | TFT Color Monitor (Examination Room) | Deleted the reference to the Monitor Replacement Document                                             |
| Partial Maintenance | TFT Color Monitor (Examination Room) | Deleted the reference to the Monitor Replacement Document                                             |
| Full Maintenance    | X-ray generator                      | UG-related update added for tube adjustment and service switch                                        |
| Full Maintenance    | Tube Cooling Unit                    | Updated the signal connector for One4all SMC cooling unit                                             |
| Partial Maintenance | Tube Cooling Unit                    | Updated the signal connector for One4all SMC cooling unit                                             |

Tab. 12: Artis one - Maintenance Instructions

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