

# cforce MAX

## USER MANUAL

May 2026 • 1.0 • English

D45 10009702





---

## Disclaimer

Before using the product, be sure to read and understand all respective instructions.

The product is available for commercial customers only.

For product specification changes since this document was published, refer to the latest publications of ARRI data sheets or data books, etc., for the most up-to-date specifications.

Not all products and / or types are available in every country. Please check with an ARRI sales representative for availability and additional information.

The information given in this document is subject to change without notice.

While ARRI endeavors to enhance the quality, reliability and safety of their products, customers agree and acknowledge that the possibility of defects thereof cannot be eliminated entirely. To minimize risk of damage to property or injury (including death) to persons arising from defects in the products, customers must incorporate adequate safety measures in their work with the system and have to heed the stated canonic use.

ARRI or its subsidiaries expressly exclude any liability, warranty, demand or other obligation for any claim, representation, or cause, or action, or whatsoever, express or implied, whether in contract or tort, including negligence, or incorporated in terms and conditions, whether by statute, law or otherwise. In no event shall ARRI or its subsidiaries be liable for or have a remedy for recovery of any special, direct, indirect, incidental, or consequential damages, including, but not limited to lost profits, lost savings, lost revenues or economic loss of any kind or for any claim by third party, downtime, good will, damage to or replacement of equipment or property, any cost or recovering of any material or goods associated with the assembly or use of our products, or any other damages or injury of the persons and so on or under any other legal theory.

Neither ARRI nor its subsidiaries assume any liability for infringement of patents, copyrights or other intellectual property rights of third parties by or arising from the use of ARRI products or any other liability arising from the use of such products. No license, express, implied or otherwise, is granted under any patents, copyrights or other intellectual property right of ARRI or others.

In the case one or all of the foregoing clauses are not allowed by applicable law, the fullest extent permissible clauses by applicable law are validated.

## Imprint

© 2026 Arnold & Richter Cine Technik GmbH & Co. Betriebs KG. All rights reserved.

The product contains proprietary information of Arnold & Richter Cine Technik GmbH & Co. Betriebs KG; it is provided under a license agreement containing restrictions on use and disclosure and protected by copyright law. Reverse engineering of the software is prohibited.

No part of this publication shall be used for distribution, reproduction, transmission, transcription, storage in a data retrieval system, or translated into any language in any form by any means without the prior written permission of Arnold & Richter Cine Technik GmbH & Co. Betriebs KG.

If you are downloading files from our web pages for your personal use, make sure to check for updated versions.

ARRI cannot take any liability whatsoever for downloaded files, as technical data are subject to change without notice.

Due to continued product development the information in this document may change without notice. The information and intellectual property contained herein is confidential between ARRI and the client and remains the exclusive property of ARRI. If you find any problems in the documentation, please report them to us in writing. ARRI does not warrant that this document is flawless.

Original version.

### Initial Language

The initial language of this operating manual is English. Operating manuals in other languages are translations from English.

In the event of conflict between the respective languages (i.e. if any translation(s) of present document has/have been prepared for convenience or any other purpose), with regards to the meaning or interpretation of a word or an instruction etc., the contents and provisions of the English language version shall prevail.

### For Further Assistance

ARRI Cine + Video Geräte Gesellschaft m.b.H.

Pottendorferstrasse 23-25/3/2/1

A-1120 Vienna

Austria

E-mail: [service@arri.com](mailto:service@arri.com)

Website: [www.arri.com/en/technical-service](http://www.arri.com/en/technical-service)

### Document Revision History

Document ID: D45 10009702

| Version | Release | Date     | Note          |
|---------|---------|----------|---------------|
| 1.0     | F08588  | May 2026 | First Release |

# Table of Contents

|          |                                               |           |
|----------|-----------------------------------------------|-----------|
| <b>1</b> | <b>About this Document .....</b>              | <b>6</b>  |
| <b>2</b> | <b>Introduction .....</b>                     | <b>7</b>  |
| <b>3</b> | <b>Product Overview.....</b>                  | <b>8</b>  |
| 3.1      | Motor Layout .....                            | 8         |
| 3.2      | Control Panel .....                           | 9         |
| 3.3      | Soft Button .....                             | 10        |
| <b>4</b> | <b>Motor Preparation .....</b>                | <b>11</b> |
| 4.1      | Mounting and Assembly .....                   | 11        |
| 4.1.1    | Motor Rod Clamp MRC-1 .....                   | 11        |
| 4.1.2    | Clamp Orientations .....                      | 11        |
| 4.1.3    | Mounting the Clamp.....                       | 11        |
| 4.1.4    | Rod Attachment .....                          | 11        |
| 4.2      | Initial Setup .....                           | 13        |
| <b>5</b> | <b>Menu Operation .....</b>                   | <b>14</b> |
| 5.1      | Home Screen 1 .....                           | 14        |
| 5.2      | Home Screen 2 .....                           | 14        |
| 5.3      | Home Screen 3 .....                           | 15        |
| <b>6</b> | <b>Features .....</b>                         | <b>18</b> |
| 6.1      | Soft Mode.....                                | 18        |
| 6.2      | Manual Calibration .....                      | 18        |
| 6.3      | Encoder Limits .....                          | 18        |
| 6.4      | Personalized Display Control .....            | 19        |
| 6.4.1    | Multi Segment.....                            | 19        |
| 6.4.2    | Stealth at REC .....                          | 19        |
| 6.4.3    | Flippable Display.....                        | 19        |
| 6.4.4    | Lock Timeout .....                            | 19        |
| 6.4.5    | Configurable Brightness.....                  | 20        |
| <b>7</b> | <b>Compatibility.....</b>                     | <b>21</b> |
| <b>8</b> | <b>Software Update .....</b>                  | <b>22</b> |
| 8.1      | How to Install a Software Update Package..... | 22        |
| 8.2      | Update Procedure .....                        | 22        |
| 8.3      | Update with Hi-5 via USB.....                 | 22        |
| 8.4      | Update with an ARRI camera.....               | 22        |
| <b>9</b> | <b>Appendix .....</b>                         | <b>23</b> |
| 9.1      | Environmental Conditions .....                | 23        |
| 9.2      | Technical Data .....                          | 23        |
| 9.3      | Pinouts .....                                 | 23        |
| 9.4      | Dimensional Drawings .....                    | 24        |
| 9.5      | Compatible Products.....                      | 26        |

# 1 About this Document

This operating manual is for everyone who uses the device. It gives directions on how to operate the device safe and as intended. Read the operating manual before you use the device for the first time to make sure that the use is safe and correct.

This operating manual is an important part of the device. It shall be easily accessible and near to the device so that users can use it anytime as a reference.

The user manual contains more detailed information about the features and functionalities of the device. Please visit the website [www.arri.com](http://www.arri.com) to download the user manual.

Keep the operating manual, the user manual and all other operating and assembly instructions for the device in a safe area for future reference and possible subsequent owners.

## Product Information Resources

The ARRI documentation portal provides important documents on the product for free download.

Please enter the following search keys in the search bar to retrieve the documents for the product:

cforce MAX, K2.0055211

[ARRI documentation portal](#)



For more details about the product, please refer to the ARRI website at:

[cforce max product page](#)



## How to use this Manual

All directions are given from an operators point of view. For example, device right side refers to the right side of the device when standing in front of the device and operating it in a normal fashion.

Connectors are written in all capital letters, for example "USB connector".

Buttons are written in italic typeface capital letters, for example "*PLAY button*".

Menu paths are written in italic typeface, with menu and home in capital letters, for example "*MENU > Display Orientation > Normal*".

## 2 Introduction

ARRI and cmotion continue their collaboration and are happy to introduce the new cforce MAX intelligent lens motor.

The cforce MAX is a new high-performance lens motor that enhances the Hi-5 lens control system with its exceptional speed and intelligent on-board control. Compact and lightweight despite being so fast and powerful, the cforce MAX offers versatile mounting, easy setup, and total reliability in the most demanding shooting environments.

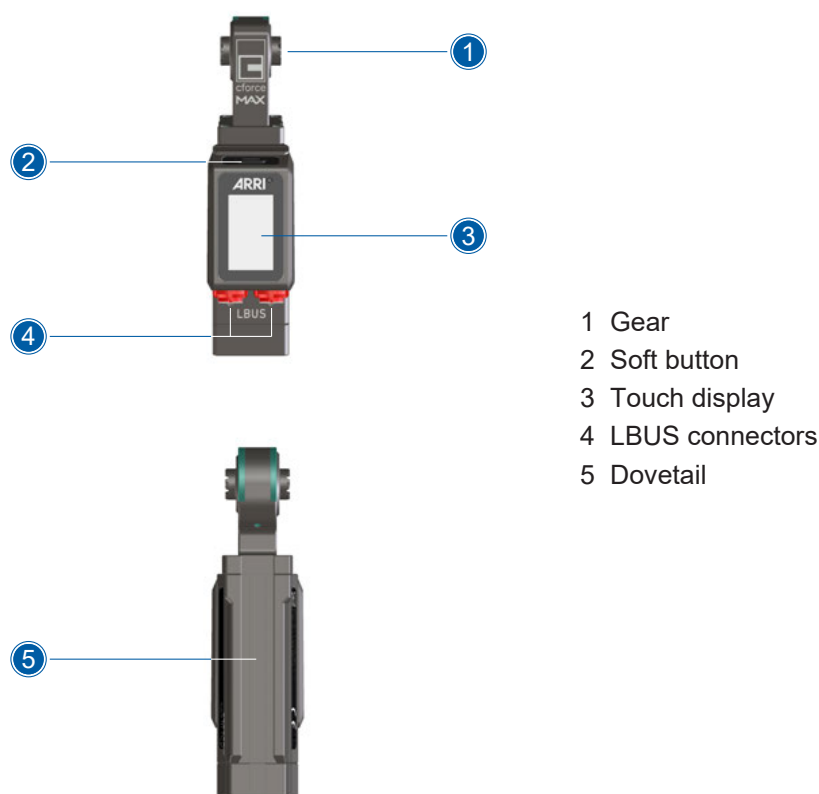
The cforce MAX is twice as fast and just as strong as the cforce plus motor it replaces, yet 15 % smaller and lighter. Perfectly complementing the ultra-compact cforce mini and wireless cforce mini RF in ARRI's lens motor lineup, the cforce MAX is ideal for larger cine primes, zoom lenses, vintage glass, and specialty optics that require strength and precision. At the same time, its reduced form factor ensures versatility across handheld, gimbal, and studio configurations. The cforce MAX, while integrating seamlessly into the ARRI ecosystem of lens control, is also a safe choice to master all challenges that might arise on set.

The accompanying new ARRI Motor Rod Clamp MRC-1 provides a rock-solid connection to lens gears and easy adjustment on 19 mm / 15 mm rods in multiple positions. The MRC-1 is also compatible with the cforce mini and cforce mini RF and is a compelling upgrade for Hi-5 system users, significantly improving stability and flexibility.

With its advanced brushless motor, the cforce MAX is quiet, durable, and easy to service. Motor response latency is so low that using the cforce MAX feels like a completely new experience for focus pullers. The high speed of up to 400 teeth per second and the market-leading latency also make it ideal for focus-tracking systems. Such systems cannot anticipate the movement in front of the camera; thus, the lens motor needs to respond in real time.

## 3 Product Overview

### 3.1 Motor Layout



#### LBUS Connector (4)

LBUS is a bus standard that allows multiple lens motor and control devices to communicate with each other.

The cforce MAX has two bidirectional LBUS interfaces with LEMO 4pin connectors. They receive and distribute power and control signals to other LBUS compatible components like other cforce motors, ARRI hand-units (Hi-5 & Hi-5 SX), and ARRI cameras (ARRI ALEXA series).

**LBUS 1:** Left connector

**LBUS 2:** Right connector

#### Touch Display (Control Panel)

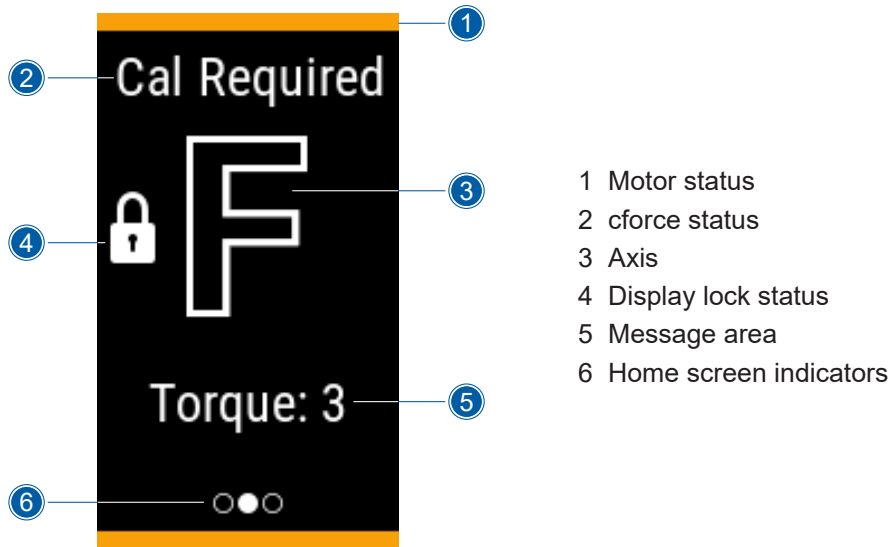
Shows status information and allows direct configuration.

#### Dovetail

For mounting accessories.



## 3.2 Control Panel



### Motor Status

The status bar will indicate the current calibration status of the motor at a glance.

|               |                                   |
|---------------|-----------------------------------|
| <b>Green</b>  | Calibrated                        |
| <b>Orange</b> | Calibration request / Calibrating |
| <b>Blue</b>   | Encoder mode                      |
| <b>Red</b>    | No control device connected       |

The different status messages are:

|                                     |                            |
|-------------------------------------|----------------------------|
| <b>Calibrating</b>                  | Calibration in progress    |
| <b>Cal Required</b>                 | Calibration required       |
| <b>Encoder</b>                      | Encoder mode               |
| <b>Factory Calibration Required</b> | Do a factory calibration   |
| <b>No Control</b>                   | No control signal detected |

### Axis

**F** – Focus

**I** – Iris

**Z** – Zoom

**X** – Aux

### Display Lock Status

If a lock symbol is shown, the touchscreen will not react to accidental input. A button press or a double-tap on the display will unlock the screen, and the lock icon will disappear.

## Multi Segment

As introduced on the Hi-5, the Multi Segment is a user-configurable display area to show information that the user wants to see at a glance. These options will be extended in future updates.

The current available options are:

|                             |                                                                                                                                                |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Torque</b>               | Displays the currently selected torque value                                                                                                   |
| <b>FIZX Value (%)</b>       | Displays the currently set value of the axis in %                                                                                              |
| <b>Speed Bar</b>            | Real-time visualization of current motor speed, relative to maximum speed                                                                      |
| <b>Torque Bar</b>           | Real-time visualization of the current torque, relative to maximum motor torque                                                                |
| <b>Temperature (°C /°F)</b> | Displays the current internal temperature of the motor. Above 70°C / 158°F the power will be limited to 1A. The normal power draw is up to 4A. |

## 3.3 Soft Button

Use the button on the motor to quickly access functions like calibration, unlocking, or axis switching.

If the motor is in locked mode, a single button press (or double-tap on the screen) will unlock the touchscreen. Subsequent presses will switch the assigned axis. On every button press, the motor will toggle through the axis assignment and display the corresponding letter on the touchscreen. The available options are: F (Focus), I (Iris), Z (Zoom), and X (AUX).

A long press on the soft button will start the automatic calibration of all attached motors that are assigned to focus, iris, or zoom. This option can be deactivated in the menu, so a long press will only calibrate the particular cforce MAX and no other motors in the LBUS chain.

If the soft button is pressed during calibration, the process will be aborted, and the motor will go back to the calibration required state.

## 4 Motor Preparation

### 4.1 Mounting and Assembly

#### 4.1.1 Motor Rod Clamp MRC-1

The MRC-1 is a quick-release rod clamp designed specifically for the cforce MAX. It provides a high-torque connection to 19 mm or 15 mm rods (via reduction insert) while offering multiple mounting orientations to accommodate complex camera setups/configurations.

#### 4.1.2 Clamp Orientations

The MRC-1 can be attached to the motor in four primary orientations (6 o'clock, 9 o'clock, 12 o'clock, and 3 o'clock). This allows the motor body to be offset from the rod to avoid physical interference with:

- Large diameter lens barrels
- Matte box filter trays
- Camera body accessories or cage components

#### 4.1.3 Mounting the Clamp

**Align the Pins:** Locate the two centering pins on the MRC-1 and align them with the corresponding interface on the cforce MAX motor body.

**Insert Screw:** Insert the captive 3 mm hex screw through the center of the clamp.

**Tighten:** Using a 3 mm Allen key, tighten the screw until the clamp is seated flush against the motor body. **Do not exceed 1.5 Nm of torque.**

#### 4.1.4 Rod Attachment

The MRC-1 features an ergonomic thumbscrew for tool-less attachment to the rod.

**To Attach:** Open the clamp jaw, place it over the rod, and turn the thumbscrew clockwise until hand-tight.

**Quick-Release:** The hinge design allows the motor to be removed from the rods without stripping the entire lens support system.

#### Attachment of Accessories

The cforce MAX has a dovetail on the rear, where you can mount the Motor Rod Clamp MRC-1.

1. Align the clamp with the dovetail mount on the rear of the cforce MAX.
2. Slide the clamp into the dovetail slot.
3. Turn the thumbscrew counterclockwise to tighten the screw on the clamp.

#### 19/15 mm Rod Mounting

1. Use the MRC-1 19 mm (K2.0053386) to attach the cforce MAX to 19 mm rods or the MRC-1 15mm (K2.0055222) to attach it to 15mm rods.
2. Turn the thumbscrew counterclockwise to open the clamp console.
3. Attach the clamp console to the rod. The motor gear shall engage to the lens barrel.
4. Turn the thumbscrew clockwise to close the clamp console.

## Clamp Orientation Examples



## 4.2 Initial Setup

Connect cforce MAX to a control device (ARRI Camera, RIA-1, NIA-1, cforce RF, or other compatible devices) using an LBUS data cable.

Use the touchscreen or the soft button to assign an axis to the motor. Ensure that the assigned axis matches the lens axis to which the cforce MAX is attached.

Set the motor side and direction on a connected control device (ARRI Camera, Hi-5, or other compatible devices).

Push and hold the soft button for more than two seconds to initiate an automatic calibration or select manual calibration either on a Hi-5 or on the touchscreen. Automatic calibration can also be triggered from a connected control device.



### WARNING

#### Risk of injury!

Do not touch the motor gear while the motor is powered up!  
This device is not intended for use by children! Keep body parts out of the motion path.  
Disconnect the plug if the device is not used for a long period of time.

---



### NOTICE

The motor shall only be used for smooth-running lenses; otherwise, the gearbox could get damaged.

---

### HINT

To prevent the motor from falling down when detaching the motor from the lens, hold the motor unit with one hand while opening the clamp console.

---

## 5 Menu Operation

The touchscreen features a menu that allows to quickly see status info, initiate calibration, and adjust settings.

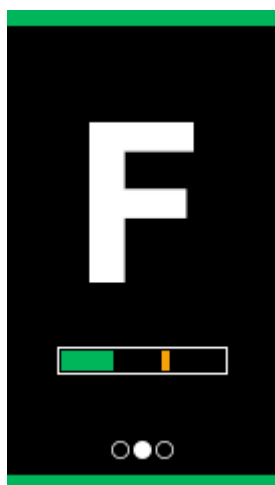
The touchscreen consists of three home screens. The currently displayed screen is indicated by three dots at the bottom of the display.

### 5.1 Home Screen 1



The first page allows initiating an automatic calibration of the single motor or calibration of all attached motors that are assigned to focus, iris, or zoom (factory default). This option is adjustable in the settings menu.

### 5.2 Home Screen 2



The second page shows status info, current axis, and the Multi Segment. All elements are explained in > 3.2 Control Panel.

## 5.3 Home Screen 3



The third page offers quick access to the settings menu. The available settings are explained in the next chapter. The factory default values are in **bold**.

### 5.3.1 Motor

#### Torque

Adjust the torque value of the motor:

- 1
- 2
- **3**
- 4

#### Soft Mode

When active, the motor uses ramped start and end movements to delay the time until maximum speed is reached. This setting is helpful for delicate lenses. A low curve has less impact than a medium or high curve:

- **Off**
- Low
- Medium
- High

#### Calibration Axis

Controls whether only this motor or all attached focus, iris, and zoom (FIZ) motors respond to initiating a calibration:

- Single
- **FIZ**

#### Manual Calibration

Starts a manual calibration process, performed by hand.

#### Encoder Limits

Sets hard stops on the motor while it is in encoder mode.

## 5.3.2 Display

### Orientation

- **Auto**
- Normal
- Flipped

### Brightness

Brightness level of the screen while unlocked:

- 1
- 2
- **3**
- 4
- 5

### Lock timeout

Seconds until the touchscreen will automatically lock:

- 10s
- **30s**
- 60s
- Off

### Lock Brightness

Screen brightness while locked:

- Off
- **1**
- 2
- 3
- 4
- 5

### Multi Segment

Selection of the Multi Segment widget:

- **Torque**
- FIZX Value (%)
- Speed Bar
- Torque Bar
- Temp (°C)
- Temp (°F)
- None



**Axis Color**

Assigns a color to the currently set lens axis:

- **White**
- Red
- Orange
- Yellow
- Green
- Cyan
- Blue
- Magenta
- Pink

**Stealth at REC**

When active, the display will turn off while the camera is recording:

- **No**
- Yes

### 5.3.3 System

**Factory Reset**

Executes a factory reset of the motor

**System Info**

- Version
- Build Date
- Serial Number

## 6 Features

The following sections provide detailed descriptions of motor features.

### 6.1 Soft Mode

Soft Mode reduces the impact of motor power during lens movement to enable smoother operation with sensitive or delicate lens systems.



When Soft Mode is active, the motor uses ramped start and end movements to delay the time until maximum speed is reached. Active Soft Mode is indicated by a feather icon on the touchscreen.

The intensity of the ramp can be adjusted via the Soft Mode setting:

**Low:** Minimal smoothing for fast response

**Medium:** Balanced smoothing for general use

**High:** Maximum smoothing for highly delicate lenses or precise control

Soft Mode affects movement behavior only and does not change calibration or encoder reference values.

### 6.2 Manual Calibration

Manual Calibration allows the user to define the end stops of the lens motor without using automatic detection.

During manual calibration, the motor is driven to its minimum and maximum limits following the prompts on the touchscreen to determine the usable encoder range.

Manual Calibration can be used when:

- Automatic calibration is not suitable for the connected lens system
- Fine adjustment of end stops is required
- Specific lens behavior requires controlled calibration steps

Once completed, the motor stores the calibration data until a new calibration is performed.

### 6.3 Encoder Limits

Encoder Limits define software-based travel boundaries for the motor when operating in encoder mode.

When enabled, Encoder Limits restrict motor movement to a defined range, preventing operation beyond configured minimum and maximum positions. This helps protect lens mechanics and ensures consistent operation in setups without mechanical end stops.

Encoder Limits can be used to:

- Restrict travel range for specific lenses or adapters
- Prevent accidental over-travel in encoder-based operation
- Match the mechanical limitations of the lens system
- Define end stops on lenses without physical limits

Encoder Limits apply only in encoder mode and do not affect calibration data. To clear encoder limits, either start a new manual calibration process or connect a control device and assign the corresponding axis.

## 6.4 Personalized Display Control

### 6.4.1 Multi Segment

The Multi Segment display provides a configurable status area on the motor touchscreen for quick access to key system information.

It allows the user to select a single parameter that is displayed continuously during operation. This enables immediate visual feedback without navigating through menus.

Available display options include:

- Torque
- FIZX Value (%)
- Speed Bar
- Torque Bar
- Temperature (°C / °F)
- None

The Multi Segment display is intended for operational monitoring and does not affect motor behavior or system settings.

### 6.4.2 Stealth at REC

When Stealth at REC is enabled, the touchscreen display automatically turns off during recording.

This reduces visual distraction and light emission on set. The display reactivates when recording stops.

Stealth at REC affects display output only and does not influence motor operation.

### 6.4.3 Flippable Display

The display orientation can be inverted to accommodate different mounting positions and orientations.

Supported modes:

- Auto (factory default): Automatically detects orientation based on motor position
- Normal: Standard orientation
- Flipped: Inverted display orientation

This ensures consistent readability regardless of how the motor is mounted in the camera setup.

### 6.4.4 Lock Timeout

Lock Timeout defines the time until the touchscreen automatically locks after the last user interaction.

When the timeout expires, the touchscreen enters locked mode to prevent accidental input.

Available settings:

- 10 s
- 30 s
- 60 s
- Off

When set to Off, automatic locking is disabled, and manual locking must be performed via a swipe-down gesture on the touchscreen

### **6.4.5 Configurable Brightness**

The touchscreen brightness can be adjusted independently for locked and unlocked states.

This allows adaptation to different lighting conditions on set while maintaining readability.

Settings include:

- Brightness (unlocked state): Levels 1–5
- Lock Brightness (locked state): Off or Levels 1–5

## 7 Compatibility

The cforce MAX is compatible with the following products and firmware versions:

| Product        | Recommended Firmware Version  |
|----------------|-------------------------------|
| Hi-5 & Hi-5 SX | 3.4.2 and later               |
| NIA-1          | 1.1.1 and later               |
| ZMU-4          | 1.5.0 and later               |
| RIA-1          | 2.5.0 and later               |
| OCU-1          | 2.0.2 and later               |
| cforce mini RF | 2.5.0 and later               |
| cforce mini    | 2.0.0 and later               |
| cforce plus    | 2.0.0 and later               |
| CUB-1          | 3.1.0 and later               |
| CUB-2          | 1.3.1 and later               |
| Master Grip    | 2.0.2 and later               |
| SXU-1          | Update to the latest firmware |
| WCU-4          | Update to the latest firmware |

For compatibility with cmotion products, please contact cmotion directly.

cforce MAX (release SUP 1.0.4 ) is not supported by the following legacy devices:

- ALEXA LF
- ALEXA 65
- ALEXA Plus/ XT / SXT
- UMC-4
- AMC-1

## 8 Software Update

### 8.1 How to Install a Software Update Package

You can find the Software Update Package (SUP) in the Electronic Control Systems download section on:

[Overview Of All Current Software Update Packages | Technical Service | ARRI](#)

Download the latest Software Update Package to your computer.

### 8.2 Update Procedure

The cforce MAX can be updated as an LBUS device via Hi-5 (USB or ECS Sync App), ALEXA Mini, ALEXA Mini LF, ALEXA 35, ALEXA 35 Xtreme, or ALEXA 265 cameras.

The following section provides details about updating the cforce MAX via Hi-5 and an ARRI camera.

Please refer to the owner's manual of the other devices for more details.

Preparing the USB Stick: Copy the Software Update Package onto a USB memory stick in the folder ARRI/ECS/.

### 8.3 Update with Hi-5 via USB

The software can be updated using a USB-A or USB-C drive. The USB-A slot is located below the display on the bottom of the Hi-5, covered by a plastic cap. Press the release pin to open the cover. The USB-C slot is located above the display on the top side of the Hi-5, covered by a rubber cap. Lift and turn the rubber cap gently to access the USB-C slot. Make sure the power supply of the Hi-5 is stable, e.g., by using a fully charged battery.

Please note that power over USB is not recommended.

Performing the Update:

1. Connect the cforce MAX LBUS port to the Hi-5 LBUS port
2. Connect the cforce MAX to a power source (e.g., via LBUS to D-Tap cable)
3. Turn on the Hi-5
4. Insert the USB stick in the corresponding USB slot of the Hi-5
5. Go to MENU > System > Update > LBUS Device Update
6. Select the cforce MAX motor you wish to update. The serial number is printed on the side of the motor
7. Choose the desired Software Update Package and then press select to start the update
8. Wait until the update process is finished
9. Power cycle the cforce MAX motor by disconnecting it from the power source

### 8.4 Update with an ARRI camera

1. Connect the cforce MAX LBUS port to an LBUS port on the camera
2. Insert the USB stick in the corresponding USB slot of the camera
3. Go to MENU > System > Update > Update LBUS Devices
4. Choose the desired Software Update Package and then press select to start the update
5. Wait until the update process is finished
6. Power cycle the cforce MAX motor by disconnecting it from the power source

## 9 Appendix

### 9.1 Environmental Conditions

The cforce MAX should only be used and stored under certain environmental conditions.

Check the following conditions before commissioning and operation:

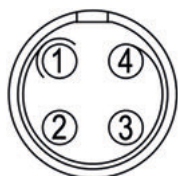
|                                          |                                                     |
|------------------------------------------|-----------------------------------------------------|
| <b>Supply Voltage</b>                    | 10.5 V - 34 V DC                                    |
| <b>Permissible Operating Temperature</b> | -4° F to +122° F / -20° C to +50° C                 |
| <b>Permissible Storage Temperature</b>   | -4° F to +158 °F / -20° C to +70° C                 |
| <b>Permissible Humidity</b>              | 0 - 95% RH from -4° F to +113° F / -20° C to +45° C |

### 9.2 Technical Data

|                                  |                                                        |
|----------------------------------|--------------------------------------------------------|
| <b>Weight</b>                    | 0,214 kg / 0.47 lb (without accessories and packaging) |
| <b>Interfaces</b>                | 2x LBUS (Lemo 4pin) for LBUS devices                   |
| <b>Torque</b>                    | 0.7 Nm const. (1.0 Nm peak)                            |
| <b>Speed</b>                     | 400 t/s (50 teeth gear)                                |
| <b>Permissible Input Voltage</b> | 10.5 V - 34 V DC                                       |
| <b>Power Consumption</b>         | max. 96 W                                              |
| <b>Dimensions (L x W x H)</b>    | 1.18 x 2.36 x 4.41" / 30 x 60 x 112                    |

### 9.3 Pinouts

The cforce MAX has two LBUS connectors (Lemo 4pin).



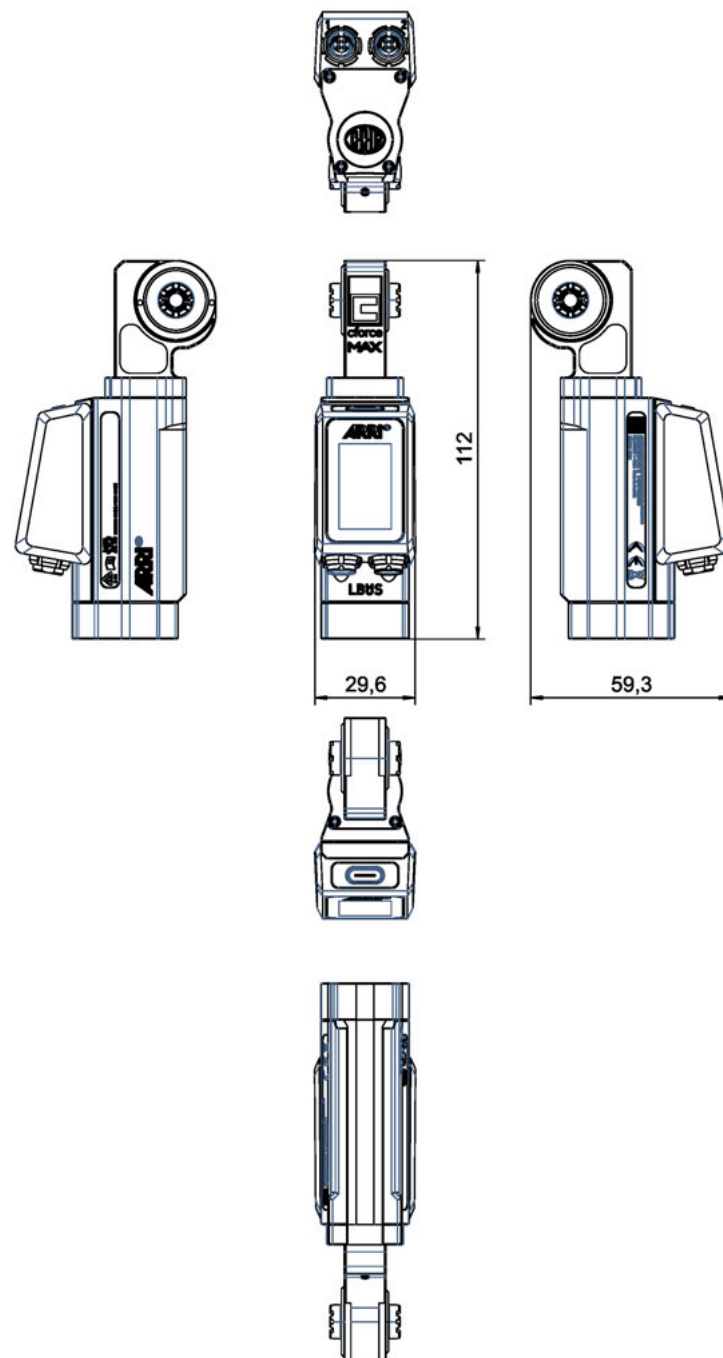
Lemo EEG.0B.304 (0B 4pin, 24 V max. 3 A)

|       |                 |
|-------|-----------------|
| Pin 1 | Ground          |
| Pin 2 | CAN Low         |
| Pin 3 | + 12 V / + 24 V |
| Pin 4 | CAN High        |

*Pin orientation as seen by the user.*

## 9.4 Dimensional Drawings

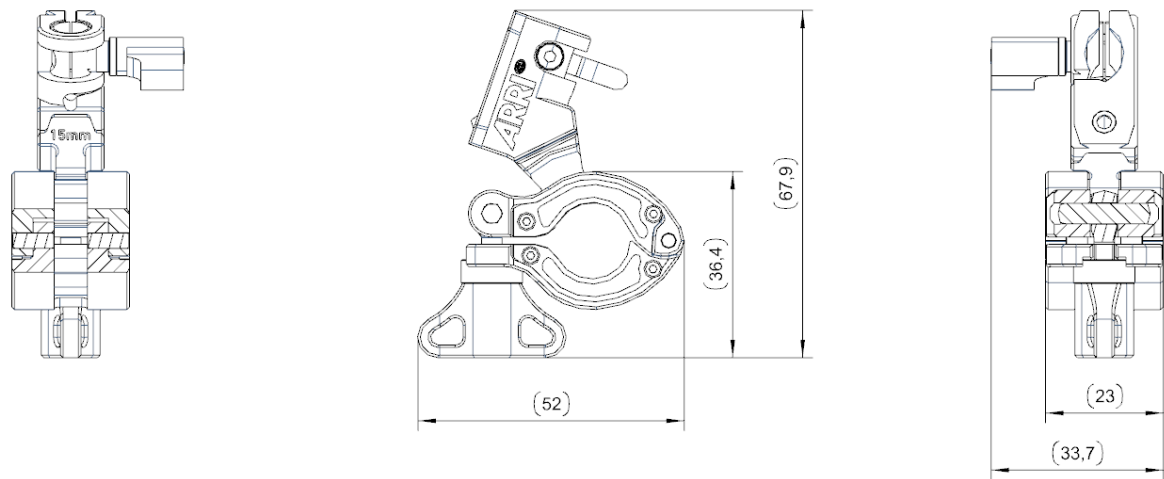
### cforce MAX



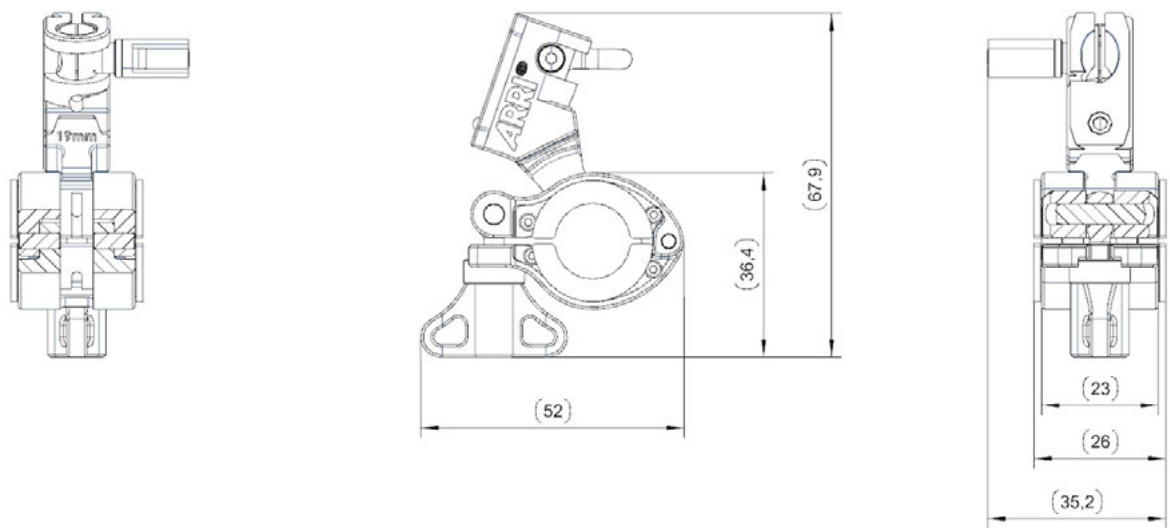
All dimensions in mm.  
Not to scale.



MRC-1



MRC-1 15mm.



MRC-1 19mm.

All dimensions in mm.  
Not to scale.

## 9.5 Compatible Products

### cforce MAX Basic Kit 15mm

The cforce MAX Basic Kit 15mm (KK.0055606) includes:

|                   |                                 |
|-------------------|---------------------------------|
| <b>K2.0055211</b> | cforce MAX Motor Unit           |
| <b>K2.0055222</b> | Motor Rod Clamp MRC-1 15mm      |
| <b>K2.72108.0</b> | CLM-4/cforce Gear m0.8/32p, 50t |

### cforce MAX Basic Kit 19mm

The cforce MAX Basic Kit 19mm (KK.0055607) includes:

|                   |                                 |
|-------------------|---------------------------------|
| <b>K2.0055211</b> | cforce MAX Motor Unit           |
| <b>K2.0053386</b> | Motor Rod Clamp MRC-1 19mm      |
| <b>K2.72108.0</b> | CLM-4/cforce Gear m0.8/32p, 50t |

### Compatible Clamps

The cforce MAX is compatible with other ARRI mounting options with the same dovetail width. These include, but are not limited to:

|                   |                                   |
|-------------------|-----------------------------------|
| <b>K2.0006176</b> | CLM 5 / cforce mini clamp console |
| <b>K2.0036610</b> | cforce mini clamp console 2       |

### Spare Parts

|                   |                                    |
|-------------------|------------------------------------|
| <b>K2.0055842</b> | Clamp Insert MRC-1 19/15mm         |
| <b>K2.0038503</b> | cforce mini Clamp Insert 2 19/15mm |
| <b>K2.0038504</b> | cforce mini Clamp Insert 2 5/8in   |

### Compatible Gears

|                   |                                        |
|-------------------|----------------------------------------|
| <b>K2.0000244</b> | CLM-4 Gear Flange                      |
| <b>K2.0002044</b> | CLM-4/cforce plus Gear 48p, 75t        |
| <b>K2.72108.0</b> | CLM-4/cforce Gear m0.8/32p, 50t        |
| <b>K2.72109.0</b> | CLM-4, cforce plus Gear m0.4/64p, 100t |
| <b>K2.72110.0</b> | CLM-4/cforce plus Gear m0.5, 80t       |
| <b>K2.72111.0</b> | CLM-4/cforce plus Gear m0.6, 70t       |
| <b>K2.72112.0</b> | CLM-4/cforce Gear m0.8/32p, 50t, 25mm  |
| <b>K2.72116.0</b> | CLM-4 Gear Set m0.8, 0.6, 0.5, 0.4     |
| <b>K2.72127.0</b> | CLM-4, cforce plus Gear Screw          |
| <b>K2.0003753</b> | CLM-5/cforce mini Gear m0.8/32p, 40t   |
| <b>K2.0006363</b> | CLM-5/cforce mini Gear m0.6, 56t       |
| <b>K2.0006365</b> | CLM-5/cforce mini Gear m0.5, 64t       |
| <b>K2.0006367</b> | CLM-5/cforce mini Gear m0.4/64p, 80t   |
| <b>K2.0006370</b> | CLM-5/cforce mini Gear 48p, 60t        |
| <b>K2.0006372</b> | CLM-5/cforce mini Gear m0.8, 40t, 25mm |
| <b>K2.0000244</b> | CLM-4 Gear Flange                      |

**Compatible Cables**

|                   |                                                        |
|-------------------|--------------------------------------------------------|
| <b>K2.0006749</b> | Cable LBUS - LBUS (0.2m/8in)                           |
| <b>K2.0006750</b> | Cable LBUS - LBUS (0.3m/1ft)                           |
| <b>K2.0006751</b> | Cable LBUS - LBUS (0.5m/1.5ft)                         |
| <b>K2.0006752</b> | Cable LBUS - LBUS (0.8m/2.6ft)                         |
| <b>K2.0006753</b> | Cable LBUS - LBUS (1.5m/5ft)                           |
| <b>K2.0006754</b> | Cable LBUS - LBUS (3m/10ft)                            |
| <b>K2.0006755</b> | Cable LBUS - LBUS (6m/20ft)                            |
| <b>K2.0006756</b> | Cable LBUS - LBUS (15m/49ft)                           |
| <b>K2.0006757</b> | Cable LBUS - D-Tap (1.2m/4ft)                          |
| <b>K2.0006758</b> | Cable LBUS - D-Tap (0.8m/2.6ft)                        |
| <b>K2.0006759</b> | Cable LBUS - RS (0.8m/2.6ft)                           |
| <b>K2.0012785</b> | Cable LBUS (angled) - LBUS (angled) (0.2m/8in)         |
| <b>K2.0012628</b> | Cable LBUS (angled) - EXT (6p) (straight) (0.8m/2.6ft) |
| <b>K2.0012630</b> | Cable LBUS (angled) - LBUS (angled) (0.8m/2.6ft)       |
| <b>K2.0013040</b> | Cable LBUS (angled) - LBUS (angled) (0.6m/1.9ft)       |
| <b>K2.0013041</b> | Cable LBUS (angled) - LBUS (straight) (1m/3.3ft)       |
| <b>K2.0013042</b> | Cable LBUS (angled) - LBUS (straight) (0.35m/1.15ft)   |
| <b>K2.0013043</b> | Cable LBUS (angled) - LBUS (straight) (0.8m/2.3ft)     |
| <b>K2.0051681</b> | Cable LBUS (angled) - LBUS (angled) (0.3m/1ft)         |

cforce  
**MAX**