TRIXY Remote System

Manual TRIXY | E | 02.2008

Manual

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PANTHER

1. Introduction

Congratulations to your decision to buy or rent a PANTHER - TRIXY Remote System. We are very pleased that you have chosen our product, which combines state-of-the-art technology.

High-quality material and sound know-how, as well as a clever concept enable your TRIXY Remote System to do a professional job, which you will really enjoy when doing your responsible work at the set.

Your new TRIXY Remote System is a high-quality tool, which enables the creative camera man to do an excellent job – fast and easy – with fantastic shots and camera moves.

The TRIXY Remote System is a product that has been created and built by experts for experts – to satisfy the high demands of every camera man.

We hope that you will have a lot of pleasure with your TRIXY Remote System. In order to guarantee the highest security and reliability in our product at the set, please study our operating manual very carefully!

All the best
PANTHER GmbH

2. To the grip

Sloppy assembly, disassembly and operating have created and will also create in future dam-ages and physical injury, as well as death of involved or even uninvolved persons.

The following operating instructions should explain to the grip how to work with the camera crane and should also make aware and give advice to take care of possible dangers.

Accidents can only be avoided if the dangers are well known and the common sense is activated.

3. Specification

weight:	TRIXY remote head (Pan & Tilt): 8.0 kg / 17.6 lb* TRIXY remote head (Pan & Tilt & Roll): 12.2 kg / 26.9 lb* * remote head w/o camera, cameraplate, lens motors and cables
payload:	max. 15 kg / 33 lb
power supply, CPU Box:	DC 12 - 20 V (with 12 V max. 8 A / 96 W)
power supply, Camera:	over jack CAMERA POWER IN max. 40 W
speed (Pan, Tilt & Roll):	min. approx. 30 min / 360° max. approx. 3 sec / 360°
external power supply	DC 18 V, AC 90 - 264 V / 47 - 63 Hz
dimensions: (W x H x D)	CPU Box: 223 x 110 x 14,6 mm / 8.8 x 4.3 x 0.6" tabletop unit: 223 x 55 x 14,6 mm / 8.8 x 2.2 x 0.6"
humidity protection:	IP 52

Fig. 3.0.1
Three sided view - TRIXY as 2-axis version

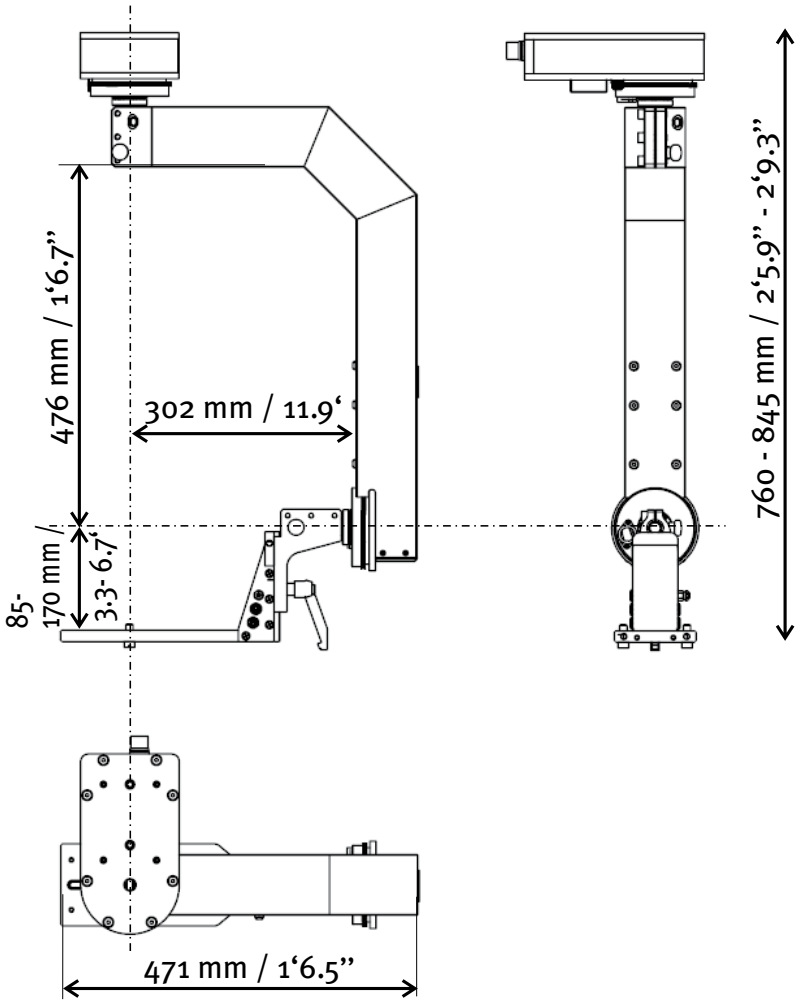
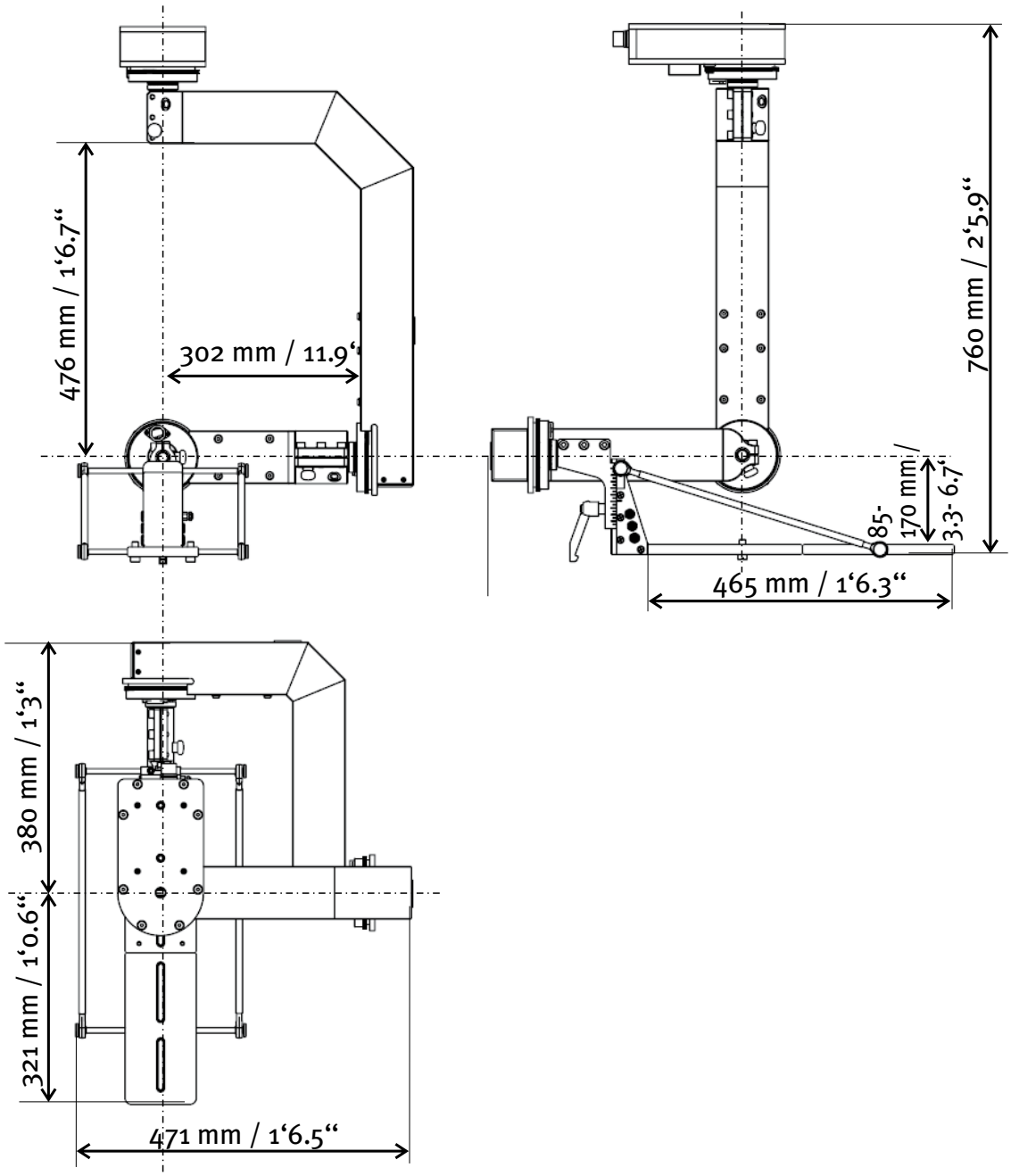


Fig. 3.0.2
Three sided view - TRIXY as 3-axis version



3.1 TRIXY, Remote Head

❶ TRIXY, L-frame long (2-axis) (code no. 163382)

❷ TRIXY, pan axis (code no. 155815)

❸ TRIXY, L-frame short (3-axis) (code no. 166371)

❹ TRIXY, camera assembling plate (code no. 163383), is used as tilt axis for the 2-axis version, and as roll axis for the 3-axis version.

❺ TRIXY, extention - camera supporting plate (3 axis) (code no. 166409)

❻ stabilization rods (contained in code no. 166409)

Fig. 3.1.1
TRIXY as 2-axis version

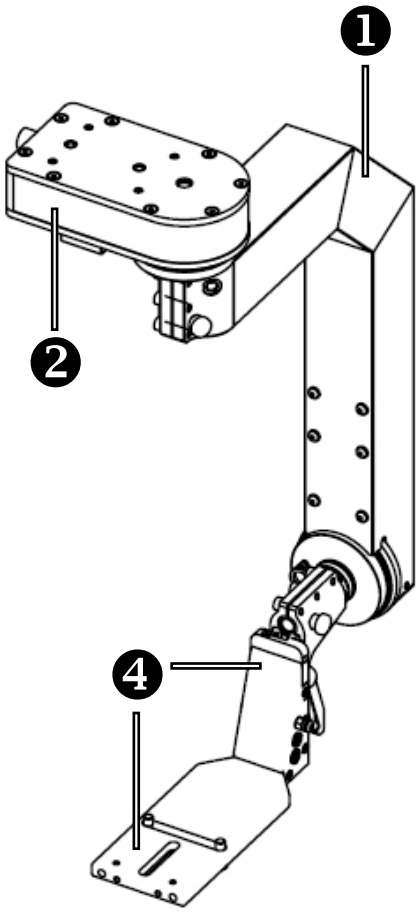
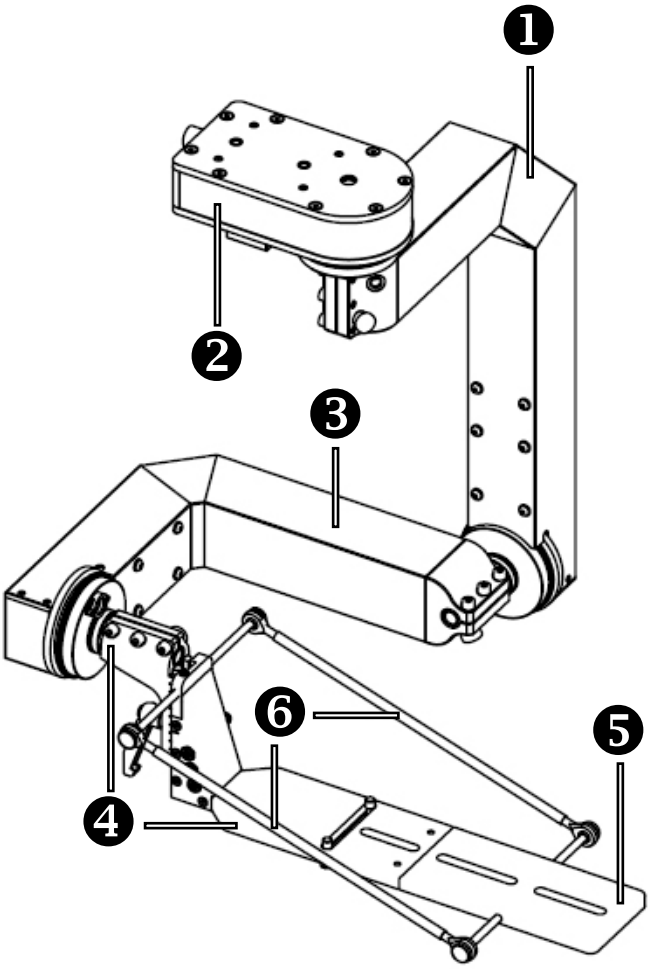


Fig. 3.1.2
TRIXY as 3-axis version



3.2 TRIXY, CPU Box

❶ Display, displays device status, adjustment parameter, and operating voltage.
❷ MODE – knob, enables the choice of different modes.
❸ PAN, TILT & ROLL AXIS – Knobs, enable the change of parameter per motion axis.
❹ ZOOM, IRIS & FOCUS AXIS – Knobs, change the parameter per objective axis.
❺ IRIS - knob *, enables IRIS- control.
❻ CAMERA POWER IN [4-pole XLR socket, pin1: -, pin4: +], external power supply of camera. Power transfer up to max. 40 Watt.
❼ POWER IN DC 10-20 V [4-pole XLR socket, pin1: -, pin4: +], inlet to power supply of the remote systems, inlet voltage range DC 12-20 V, max. 96 W.
❽ ZOOM HANDLE [4-pole binder socket], for the connection to the TRIXY handle, zoom & focus
❾ TABLE BOX / JOYSTICK HANDLE [14-pole binder socket], for the connection to the TRIXY handle, joystick, or the TRIXY table console.
❿ VIDEO OUT [BNC socket], for the connection to a video control monitor
⓫ MAIN CABLE TO REMOTE HEAD, connection socket for the TRIXY main cable to remote head
⓬ Mount pivot 30 mm with 3/8" thread for mounting to the TRIXY slewing unit for Pixy crane (code no. 148307), for example.

* only with TRIXY, lens motor, IRIS

Fig. 3.2.1
TRIXY, CPU Box - frontside

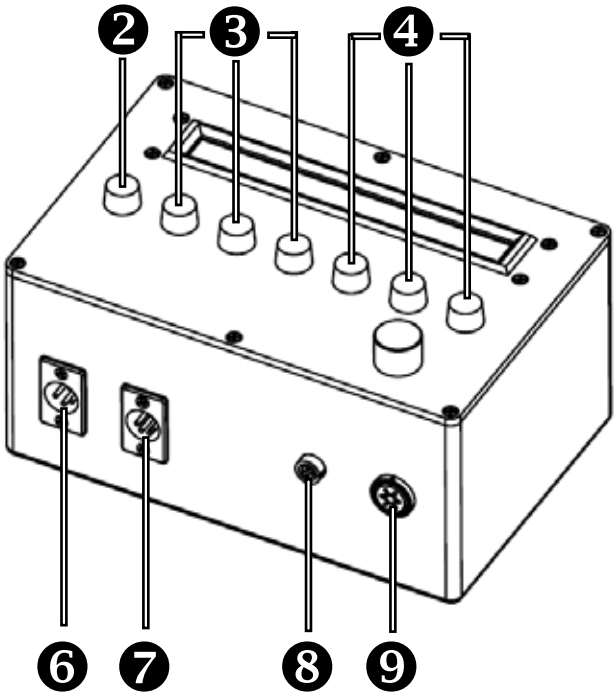
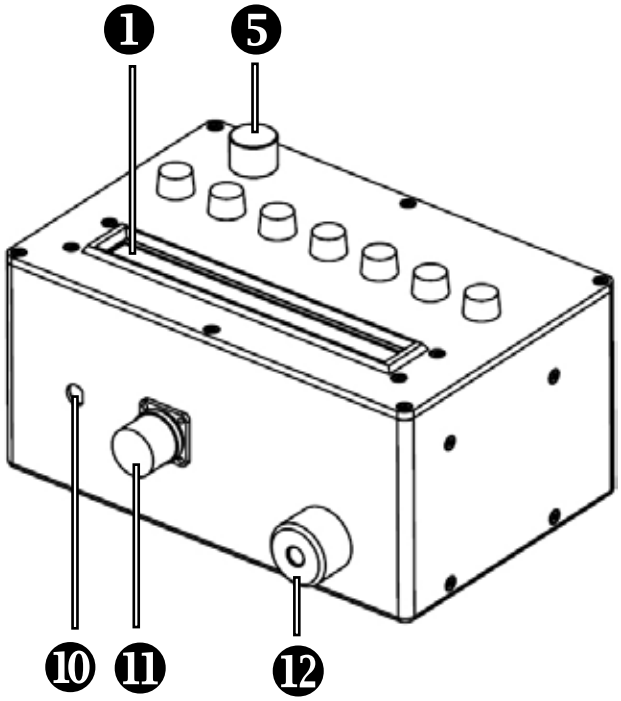


Fig. 3.2.2
TRIXY, CPU Box - backside



3.3 TRIXY, handbar with ZOOM & FOCUS

❶ ZOOM compensator *, enables ZOOM – control of the camera
❷ FOCUS - knob *, enables FOCUS - control of the camera
❸ CPU – socket, for the connection to the TRIXY, CPU box
❹ Mount pivot 30 mm, for mounting to the TRIXY, handbar adapter for Pixy crane (code no. 148307), for example

* only with TRIXY lens motors, Zoom & Focus

Fig. 3.3.1
TRIXY, Handbar with Zoom and Focus - upper side

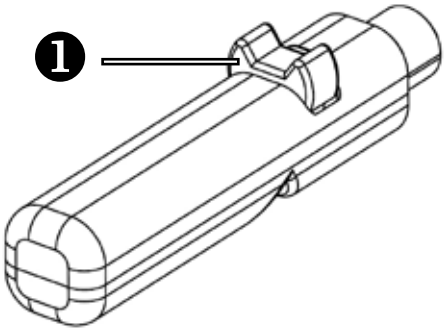
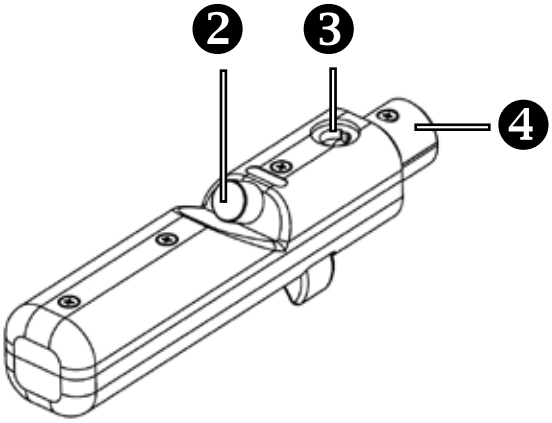


Fig. 3.3.2
TRIXY, Handbar with Zoom and Focus - lower side



3.4 TRIXY, handbar with JOYSTICK

❶ Joystick, enable the movement of the remote head (PAN, TILT, and ROLL*)
❷ CAMERA START / STOP - pushbutton switch **, enables starting and stopping of the camera
❸ [7-Pole binder socket] for the connection to the TRIXY, CPU box
❹ Mount pivot 30 mm, for mounting to the TRIXY, handbar adapter for Pixy crane (code no. 148307), for example

* only with TRIXY, roll axis (3-axis)
** only with TRIXY, start/stop option for ENG Cameras

Fig. 3.4.1
TRIXY, handbar with Joystick - upper side

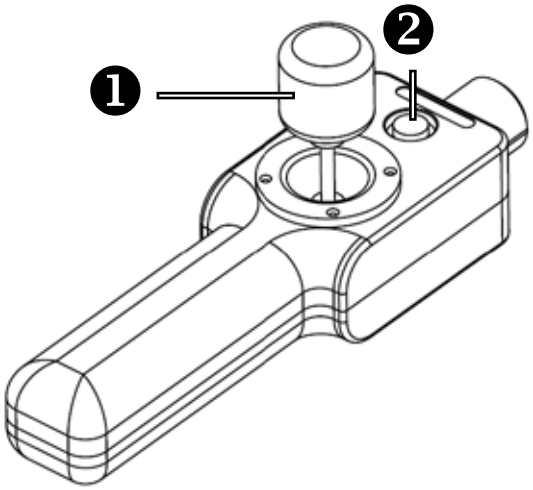
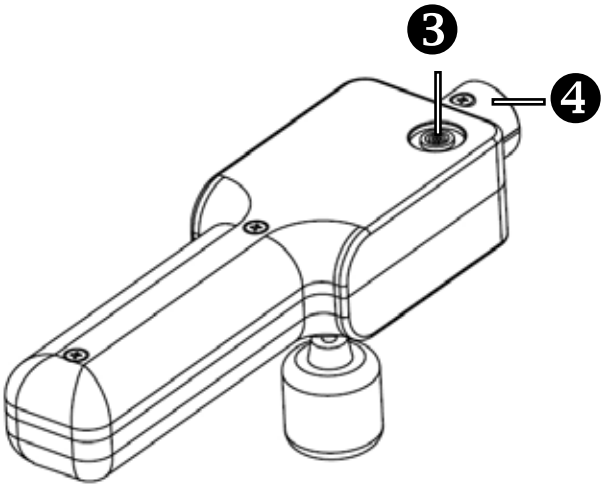


Fig. 3.4.2
TRIXY, handbar with Joystick - lower side



3.5 TRIXY, tabletop unit

❶ Joystick, enable the movement of the remote head (PAN, TILT, and ROLL*)

❷ CAMERA START / STOP - pushbutton switch **, enables starting and stopping of the camera

❸ FOCUS - knob ***, enables FOCUS - control of the camera

❹ ZOOM compensator ***, enables ZOOM – control of the camera

❺ [14-Pole binder socket] for the connection to the TRIXY, CPU box

❻ Mount pivot 30 mm, for mounting to the TRIXY, handbar adapter for Pixy crane (code no. 148307), for example

* only with TRIXY, roll axis (3-axis)
** only with TRIXY, start/stop option for ENG Cameras
*** only with TRIXY lens motors, Zoom & Focus

Fig. 3.5.1
TRIXY, Tabletop unit - upper side

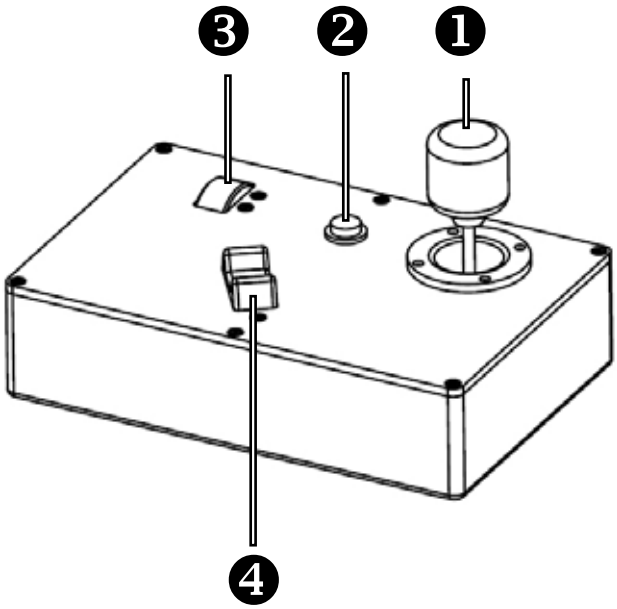
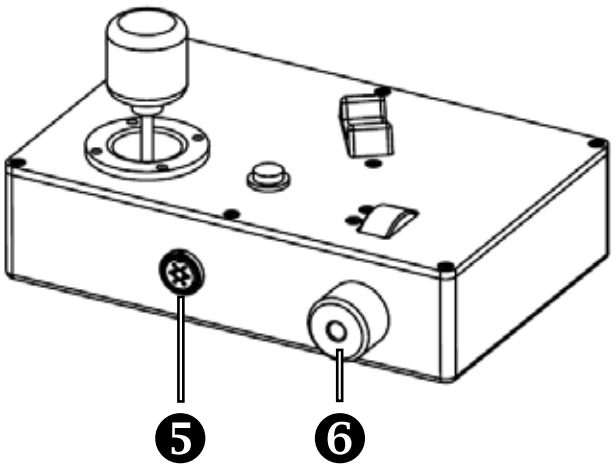


Fig. 3.5.2
TRIXY, Tabletop unit - lower side



3.6 TRIXY, lens control

Basics

The TRIXY lens control is a sophisticated system made of separate components, which can be adjusted to ENG and film lenses, customary in the trade. Thanks to a purely mechanical connection to zoom, focus, and iris ring, the Panther lens control works completely independent from electrical and thus manufacturer specific interfaces.
Only the gearing of the drive wheels must be chosen according to the lens (refer to chap. 3.6.2).

3.6.1 The lens motors

❶ Mounting bracket with strap clamp for supporting pipe Ø 19 mm
❷ Reception of lens gear wheels (chap. 3.6.2), can be changed without any tools
❸ Precision drive motor unit
❹ Connection cables [8-Pole binder socket], is connected to the socket of the TRIXY camera mounting plate
❺ Housing with motor controller

Fig. 3.6.1
TRIXY, lens motor w/o lens gear wheel

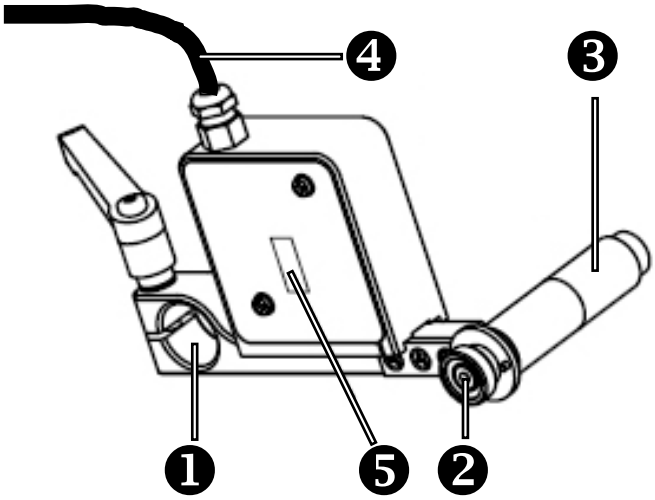
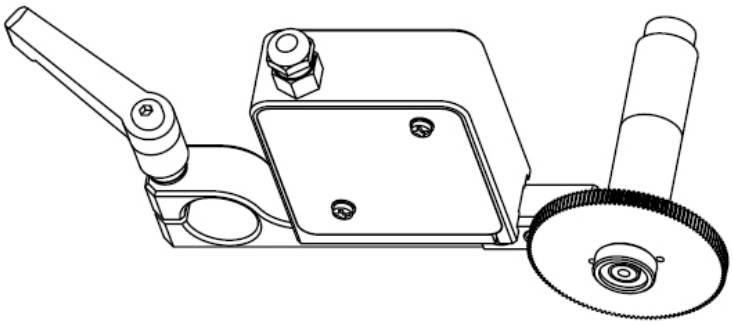
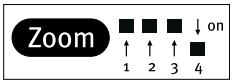
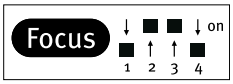
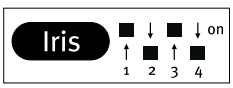


Fig. 3.6.2
TRIXY, lens motor with lens gear wheel



Three different lens motors are available. These differ in length of the mounting brackets and in their factory-set digital addressing.

lens motor	*bracket length*	*code no.*	*address*
ZOOM lens motor	short bracket	147517	
FOCUS lens motor	long bracket	148398	
IRIS lens motor	medium bracket	148511	

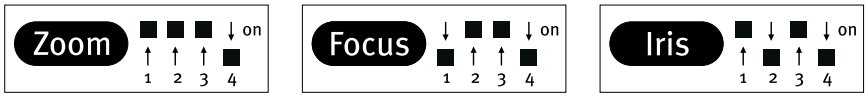
Changing a digital address:

To be able to individually adjust the Panther lens control to the desired lens, it may be necessary in exceptional cases to change the sequence of the motors. For this purpose, the digital addressing must be changed, e.g. the FOCUS lens motor must be switched to IRIS, and vice versa.

WARNING !

Definitely make sure that each digital address can only be adjusted to ONE lens motor, respectively!
To be able to switch, the address the system must be turned off!

To be able to switch the digital address, the lid of the motor controller must be opened. A pictogram is located on the internal side of the lid, respectively, which displays the adjustment of the dip switch, i.e. the digital address.



The adjustment of the address is implemented on the controller board. The dip switches can be switched with a sharp object (for example a needle).

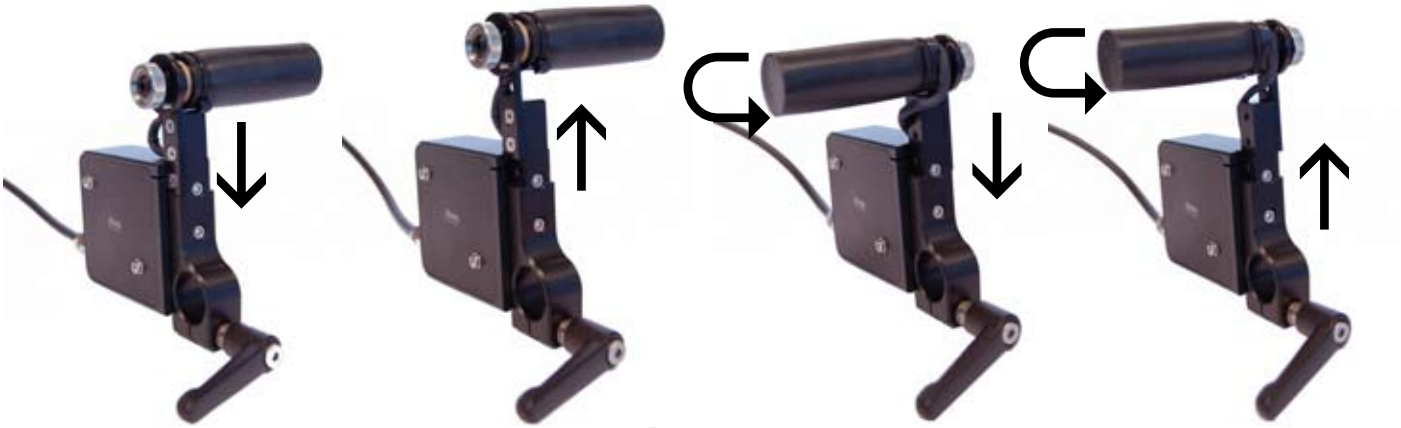
TIP !

After the respective address switch, screw the lid with the respective address to the controller housing so that the switch can be seen from the outside, as well.

Change of the mounting bracket:

To be able to individually adjust the lens motors, it is possible to change the relative position of the motor to the retaining bracket or the motor controller box. There are four different mounting positions to achieve this, which enable a different distance and alignment to the motor.

position 1 | position 2 | position 3 | position 4

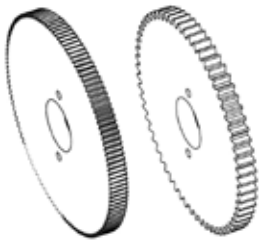


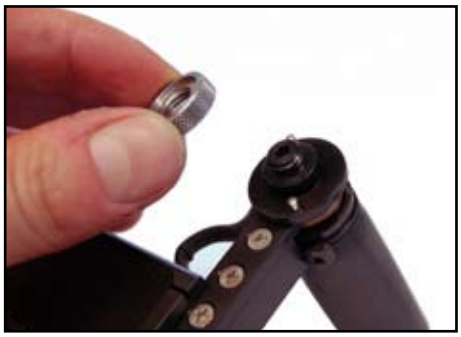
3.6.2 The lens gear wheels

Depending on the objective, the objective gear wheels must be chosen correctly. The adjusting rings show different gear distances in mm, respectively (module 0,4; 0,5; 0,6; and 0,8).

application	*gear*	*code no.*
Iris ring - CANON, FUJINON lenses	lens gear wheel, Ø 52mm, Modul 0,4	162477
Focus, Zoom ring - CANON lenses (formely also Iris ring - CANON)	lens gear wheel, Ø 52mm, Modul 0,5	162478
Focus, Zoom ring - FUJINON lenses	lens gear wheel, Ø 52mm, Modul 0,6	162479
Iris, Focus, Zoom ring - FILM lenses	lens gear wheel, Ø 52mm, Modul 0,8	167111

Fig. 3.6.2
TRIXY, lens gear wheels





Mounting the lens gear wheels is implemented easily and without any tools by means of a knurled screw.

3.6.3 Support tube and assembly bracket

The different components must be adjusted to one another to be able to pivot the Lens motors towards the lens.

The following components can be individually adjusted for this purpose:

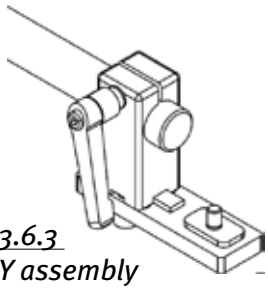


Fig. 3.6.3
TRIXY assembly bracket with support tube

1. Position and alignment of the clamping block for the supporting tube.

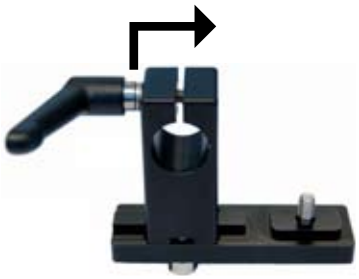
position 1

position 2

position 3

The clamping block can be mounted to three different positions. When mounting to the extension plate (for 3-axis operation), it can be mounted rotated by 90°.

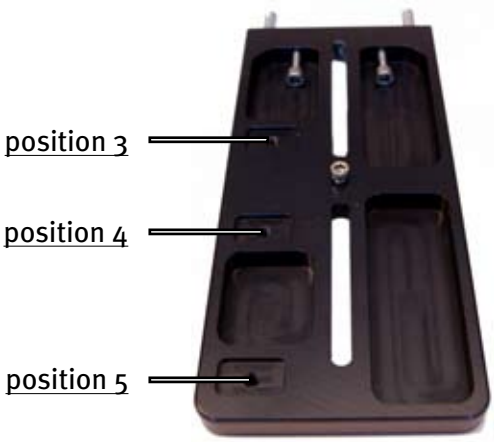
position for 2-axis operation



90° rotated position for 3-axis operation

2) position of the assembly bracket

position 1 position 2



position 3
position 4
position 5

The assembly bracket can also be mounted to altogether 5 different positions.

3.7 TRIXY, start/stop option for ENG cameras

Basics

The TRIXY start/stop option for ENG cameras serves for control of the popular ENG cameras.
The module is connected to the 12-pole LENS socket of the camera
(refer to chap. 4.1 - illustration – camera cabling).

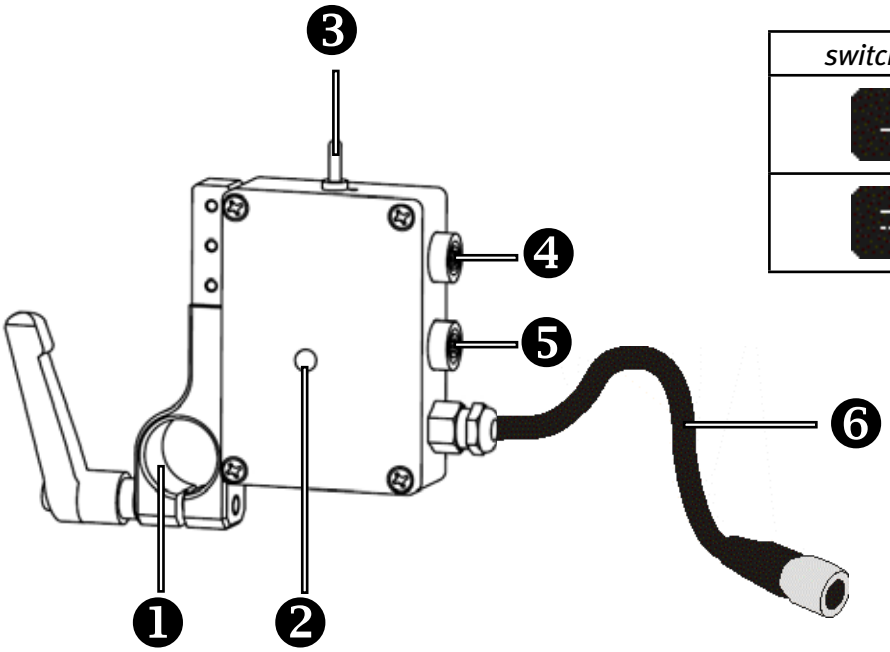
The necessary control signal for the respective camera is selected via the flip switch (refer to table 3.7.2).
Please ask the respective camera manufacturer for detailed information.

WARNING !

For an orderly funktion of the start/stop option for ENG cameras it is essential to pay attantion to the starting sequence:
chap. 5.1 - Priet to switch on remote head, and
chap. 5.2 - Switch on remote head!

❶ Mounting bracket with strap clamp for supporting pipe Ø 19 mm
❷ TALLY Led, displays the status of the start/stop pushbutton switch at the handle/tabletop unit
❸ Changeover switch PULSE / SWITCH, must be adjusted depending on each camera type
❹ Connection socket [5-pole binder] for the connection to the LENS socket of the camera cable [12-pole HIROSE plug]
❺ Connection socket [8-pole binder] for lens motor, any desired lens motor can be connected.
❻ Connection cable [8-pole binder plug], is connected to the TRIXY, camera mounting plate.

Fig. 3.7.1
TRIXY, start/stop option for ENG cameras



Tab. 3.7.2
switch setting and control signal

switch setting	*control signal*
	pulse
	switch

4. Mounting the remote head

Step 1 - Mounting the TRIXY pan axis

Mounting to the PIXY crane system:

❶ The mounting plate of the PIXY gibbet must be turned in a way that allows it to be open facing upwards.

❷ Adjust the four mounting position screws so that the TRIXY pan axis rests planar on the PIXY mounting plate.

❸ Mount the TRIXY pan axis with TWO 3/8” screws to the PIXY gibbet.

WARNING !

Only use original Panther 3/8” screws.

ALTERNATIVELY – Mounting via Mitchell

Mount the TRIXY Mitchell adapter to the upper side of the TRIXY pan axis.

❶ In order to do this, 4 countersunk bolts must be removed.

❷ The TRIXY Mitchell adapter comes with four cylinder head screws.

❸ Mount adapter to the TRIXY pan axis.

ALTERNATIVELY - Mounting via 150 mm bowl:

Mount the TRIXY 150 mm bowl adapter to the upper side of the TRIXY pan axis.

necessary components:		
1 x	TRIXY, pan axis	155815
if necessary		
1 x	TRIXY, Mitchell Adapter	157079
1 x	TRIXY, 150 mm bowl adapter	171147

Step 2 - Mounting of the TRIXY, L-frame long

❶ Slide the strap clamp of the TRIXY, L-frame onto the axis of the TRIXY, pan axis.

WARNING !

The safety bolt on the L-frame must lock audibly.

❷ ⇨Adjust the axis in a way that the connection socket is located at the face side of the clamp area (i.e. accessible).

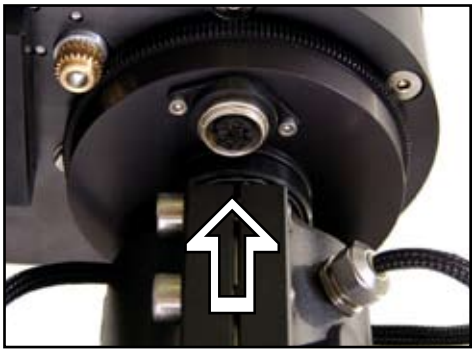
❸ Bolt the strap clamp together with the three socket screws.

❹ Connect the socket with the connection socket and bolt it together.

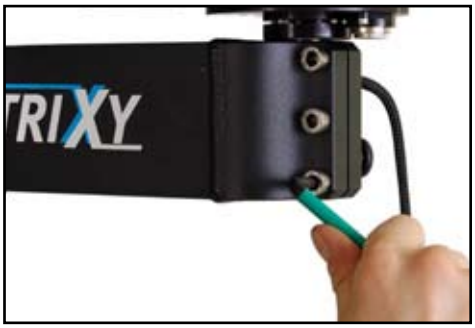
NOTE !

❹⇨ Feed the cable through the gap between the axis and the frame to avoid jamming.

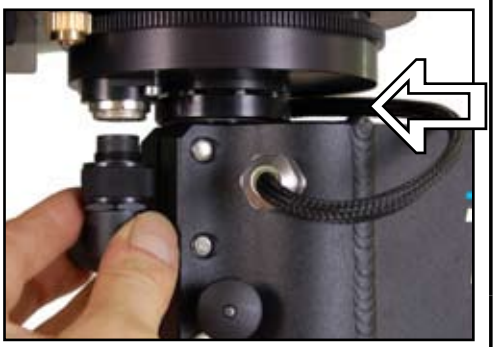
❶



❷



❸



❹

necessary components:

1 x	TRIXY, L-frame long	163382

FOR 2-AXIS OPERATION FORWARD TO STEP 3 A, FOR 3-AXIS FORWARD TO STEP 3 B !

Step 3 a - Mounting of the TRIXY, camera assembling plate

❶ Slide the strap clamp of the TRIXY, camera assembling plate onto the axis of the TRIXY, L-frame long.

WARNING !

The safety bolt on the L-frame must lock audibly.

❷ ⇨Adjust the axis in a way that the connection socket is located at the face side of the clamp area (i.e. accessible).

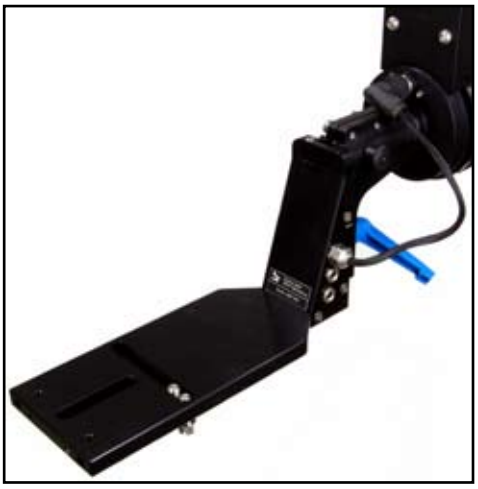
❸ Bolt the strap clamp together with the three socket screws.

❹ Connect the socket with the connection socket and bolt it together.

NOTE !

Feed the cable through the gap between the axis and the frame to avoid jamming.

❶



❷

❸ ❹

necessary components:

1 x	TRIXY, camera assembling plate	163383

FORWARD TO STEP 4 !

Step 3 b - Mounting of the TRIXY, L-frame short (option)

❶ Slide the strap clamp of the TRIXY, L-frame short assembling plate onto the axis of the TRIXY, L-frame long.

WARNING !
The safety bolt on the L-frame must lock audibly.

❷ ⇨Adjust the axis in a way that the connection socket is located at the face side of the clamp area (i.e. accessible).

❸ Bolt the strap clamp together with the three socket screws.

❹ Connect the socket with the connection socket and bolt it together.

NOTE !
Feed the cable through the gap between the axis and the frame to avoid jamming.

necessary components:

1 x	TRIXY, L-frame short	166371

Step 3 c - Mounting of the TRIXY, camera assembling plate

❶ Slide the strap clamp of the TRIXY, camera assembling plate onto the axis of the TRIXY, L-frame long.

WARNING !

The safety bolt on the L-frame must lock audibly.

❷ ⇨Adjust the axis in a way that the connection socket is located at the face side of the clamp area (i.e. accessible).

❸ Bolt the strap clamp together with the three socket screws.

❹ Connect the socket with the connection socket and bolt it together.

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necessary components:		
1 x	TRIXY, camera assembling plate	163383

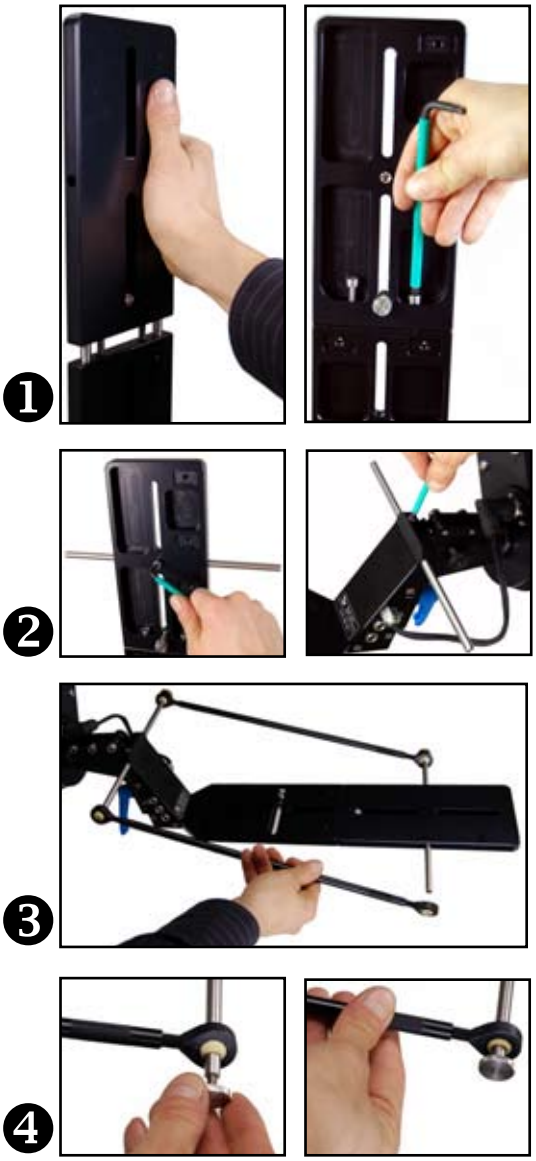
Step 3 d - Mounting of the TRIXY, extension - camera assembling plate (option)

❶ Place the extension plate facing the TRIXY camera mounting plate and bolt it together with the two lower socket screws.

❷ Feed the two stabilizing poles through the horizontal drilling of the TRIXY camera mounting plate. Adjust the poles in the center and fixate them with the clamping screws.

❸ Slide the two anchoring poles left and right onto the two stabilizing poles and fixate them by rotating the clamping bolt.

❹ Depending on the camera position and weight, the anchoring must be fine tuned (also refer to step 8b).



necessary components:

1 x	TRIXY, extention - camera supporting plate (3-axis)	166409

Step 4 - Mounting camera

NOTE !
For optimum performance of the remote head the camera should be absolutely balanced.

Preparation:

To be able to save weight, all unnecessary accessories (view finder, accumulator, sender, on board light, etc.) should be removed from the camera.

Determine center of gravity of camera

❶ Set camera incl. snap-in plate onto a pencil, for example. Shift camera until you have found the balance point.

❷ Mark this point.

Mounting the camera

❸ **for 2-axis versions:** Mount the camera onto the TRIXY camera mounting plate. The center of gravity which you marked should be exactly in line with the pivot point of the axis.

❹ **for 3-axis versions:** Mount the camera onto the TRIXY camera mounting plate. Move the camera until the tilt axis remains in a horizontal position.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necessary components:		
-	camera incl. snap-in plate	-

Step 5 - Mounting the lens motors (option)

Preparation: (refer to chap. 3.6)

To be able to adapt the lens motors individually to your optics, you must implement the following steps:

- configuration of the mounting angle (Chap. 3.6.1)
- correct position of mounting angle or support pipe (Chap. 3.6.1)
- correct choice of lens gear wheels (Chap. 3.6.2)
- configuration of lens motors, if any (Chap. 3.6.1)
- change of sequence of lens motors, if any (Chap. 3.6.1)

WARNING !

If external motors are used, the internal motors, if any, must be switched off at the lenses. Subsequently, all lens rings must be pivotal, freely.

❶ Now, insert the first lens motor (usually IRIS) onto the supporting pipe and pivot it towards the lens. Pay attention that the lens gear wheel fits tightly and the gearing interlocks cleanly.

❷ Now, mount the second lens motor (usually ZOOM)

❸ And then the third lens motor (usually FOCUS)

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necessary components:

1 x	TRIXY, support tube incl. assembly bracket	147514
1 x	TRIXY, Zoom lens motor	147517
1 x	TRIXY, Focus lens motor	148398
1 x	TRIXY, Iris lens motor	148511

cogging	*operation*	*code no.*
0,4	Iris ring - CANON, FUJINON lenses	162477
0,5	Focus, Zoom ring - CANON lenses (formely also Iris ring - CANON)	162478
0,6	Focus, Zoom ring - FUJINON lenses	162479
0,8	Iris, Focus, Zoom ring - FILM lenses	167111

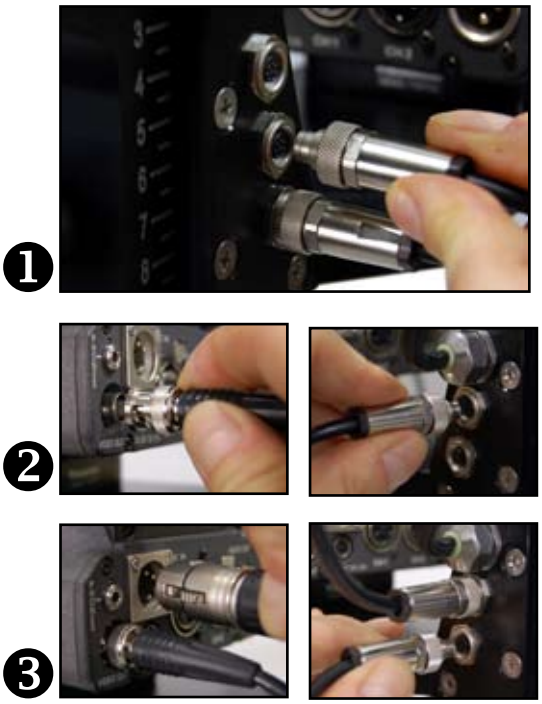
Step 6 - Cabling of the camera

refer to 4.1 illustration - camera cabling

❶ Connect the plug on the objective motor to the 8-pole binder socket of the TRIXY camera mounting plate.

❷ Connect the camera power cable to the 4-pole XLR socket of its camera and to the 3-pole binder socket of the TRIXY camera mounting plate.

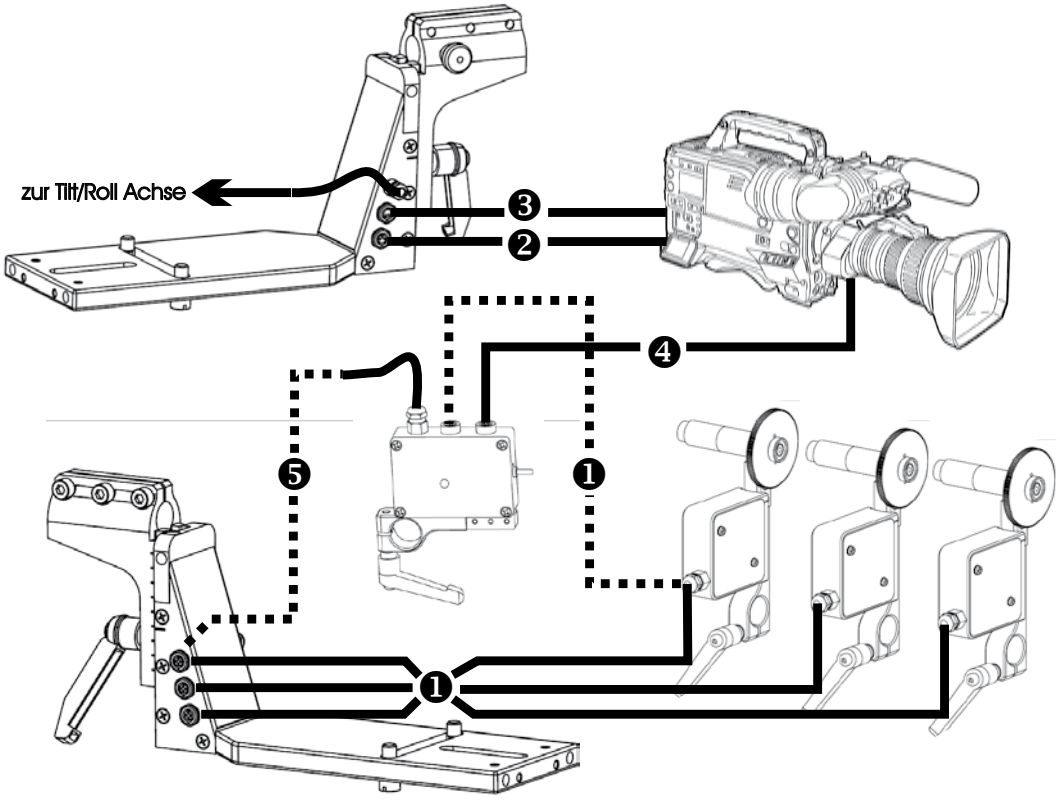
❸ Connect the camera video cable to the video-out socket of the camera and to the 2-pole binder socket of the TRIXY camera mounting plate.



necessary components:

3 x	TRIXY, lens motor	-
1 x	Cable for Trixy camera video	165246
1 x	Cable for Trixy camera power	165245

4.1 Illustration - camera cabling



Step 7 - Mounting the TRIXY, start/stop option for ENG cameras

refer to 4.1 illustration - camera cabling

Mount the camera start/stop box to the front end on the supporting pipe.

❶ Connect an objective motor, if any, to the camera start/stop box [8-pole binder socket]

❹ Connect the camera start/stop option [5-pole binder] to the LENS socket [12-pole HIROSE] of your camera.

❺ Connect the camera start/stop box to the free socket [8-pole binder] of the TRIXY camera mounting plate.

necessary components:

1 x	TRIXY, start/stop option for ENG cameras	168436

Step 8 a - Balancing the camera (2-axis version)

WARNING !

To balance the system, the remote head must be SWITCHED OFF. The axis must be freely adjustable!

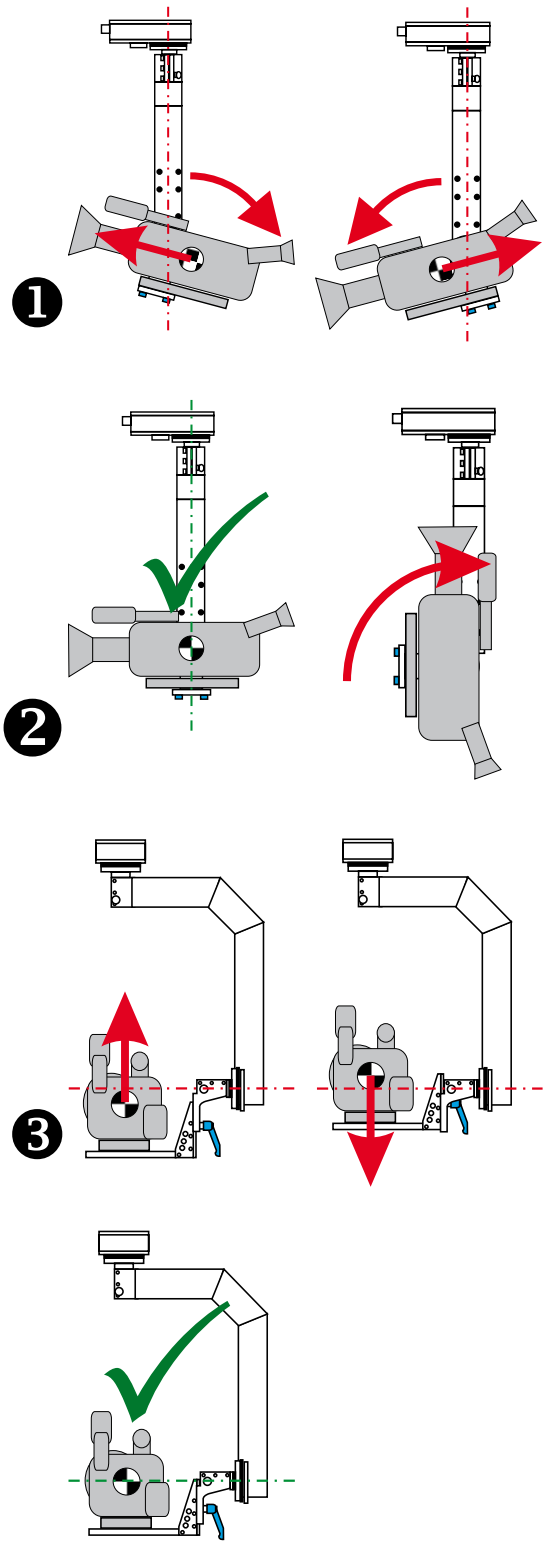
❶ Move the camera incl. support pipe and lens motors back and forth until the tilt axis stops exactly in a horizontal position.

❷ To adjust the height of center of gravity, it is advisable to bring the camera into a vertical position, first.

❸ Now, secure the camera with one hand and open the blue clamp lever with the other hand. Now, move the dovetail guide until the height of center of gravity conforms to the axis.

TIP !

From time to time, keep moving the camera in an angle of about 45°.
If the camera remains in this position the adjustment procedure is complete.



Step 8 b - Balancing the camera (3-axis version)

WARNING !

To balance the system, the remote head must be SWITCHED OFF. The axis must be freely adjustable!

❶ Move the camera incl. support pipe and lens motors back and forth until the tilt axis stops exactly in a horizontal position.

TIP !

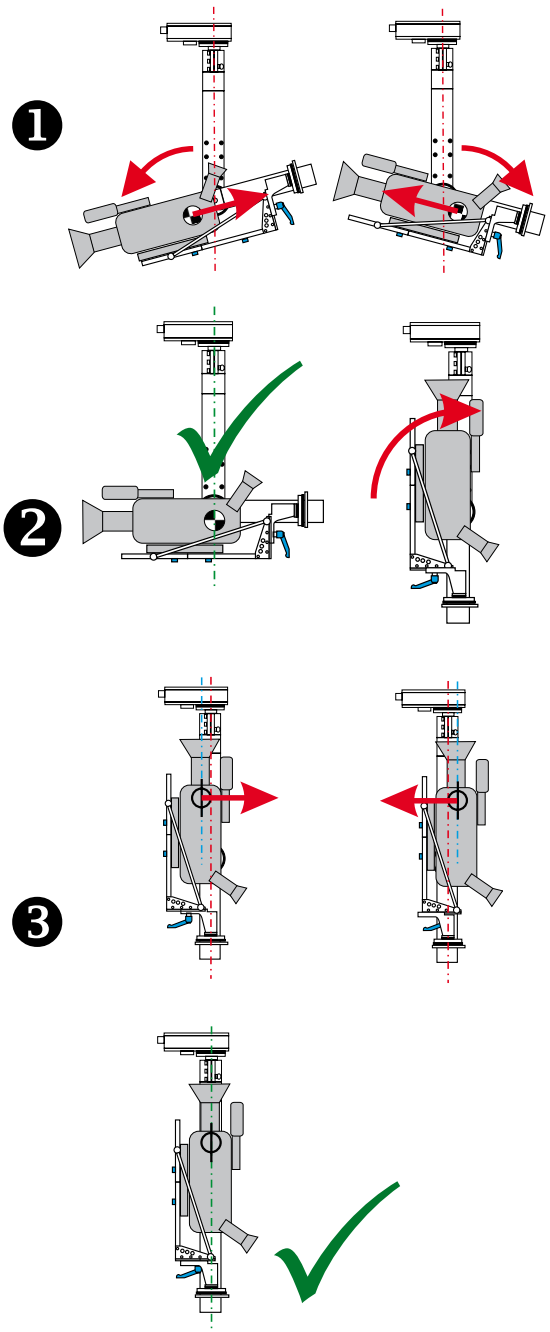
From time to time, keep moving the camera in an angle of about 45°.
If the camera remains in this position the adjustment procedure is complete. Continue with item 2

❷ For the adjustment of the roll axis to the optical axis, it is advisable to bring the camera into a vertical position, first.

❸ Now, secure the camera with one hand, and open the blue clamp lever with the other hand. Now, move the dovetail guide until the roll axis conforms to the optical axis of your camera. Furthermore, it is possible, to implement a fine tuning via the two anchoring poles.

NOTE !

Alternatively, you can adjust your system to the height of center of gravity, as well. In such case, follow step 8 a, item 3.



Step 9 - Laying the main cable

❶ Connect the main cable to the socket of the pan axis.

❷ Lay the cable along the crane arm. Pay attention that the cable does not hang loosely or can be squashed by movable components.

TIP !

To affix the main cable to the crane arm, for example, use a Velcro strip.

NOTE !

The marking on the plug must point in the direction of the symbol on the socket.

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necessary components:

1 x	Maincable, 15 m / 49‘3“	165244

Step 10 a - Mounting the Pixy back crane control

❶ Remove the weight bar at the Pixy rear tube.

❷ Mount the TRIXY handbar adapter for Pixy crane onto the rear tube. Fixate the slewing unit with the two star knob screws.

❸ Mount the Pixy weight bar.

❹ Mount the two handle bars to the upper cross pipe, and adjust as desired.

❺ Mount the CPU box to the middle strap clamp.

NOTE !

Alternatively, the handle bars can also be mounted directly to a 30 mm pipe (e.g. the weight pipe) directly above the strap clamps.

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necessary components:

1 x	TRIXY, handbar adapter for Pixy crane	148307
1 x	TRIXY, handbar with Joystick incl. cable	164966
1 x	TRIXY, handbar for Zoom & Focus incl. cable	148157

Step 11 - Connecting the control

refer to 4.2 illustration - CPU cabling

❶ Connect the main cable to the socket MAIN CABLE on the CPU box.

❷ Connect your control monitor to the BNC socket VIDEO OUT on the CPU box.

❸ Connect the external supply power, if any, for your camera to the XLR socket CAMERA POWER IN.

WARNING !

Depending on the performance of the camera, the power supply can have a voltage decline of up to 4 V. Please refer to the manufacturer's information of your camera.

❹ Connect the TRIXY handle bar with zoom & focus to the socket ZOOM HANDLE of the CPU box.

❺ Connect the TRIXY handle bar with joystick to the socket TABLE BOX / JOYSTICK HANDLE of the CPU Box.

❻ ALTERNATIVELY – connect the TRIXY table console with the socket TABLE BOX / JOYSTICK HANDLE of the CPU box.

❼ Connect the power supply (e.g. TRIXY power supply, DC 18 V ; code no. 168910).

WARNING !

As soon as the power supply is connected, the system is switched on (refer to chap. 5).

necessary components:

1 x	Maincable, 15 m / 49‘3“	165244
1 x	Cable for Trixy camera video	165246
1 x	Cable for Trixy camera power	165245
1 x	TRIXY, handbar with Joystick incl. cable	164966
1 x	TRIXY, handbar for Zoom & Focus incl. cable	148157
1 x	TRIXY, Tabletop unit incl. cable	148122
1 x	TRIXY, power supply, DC 18 V	168910

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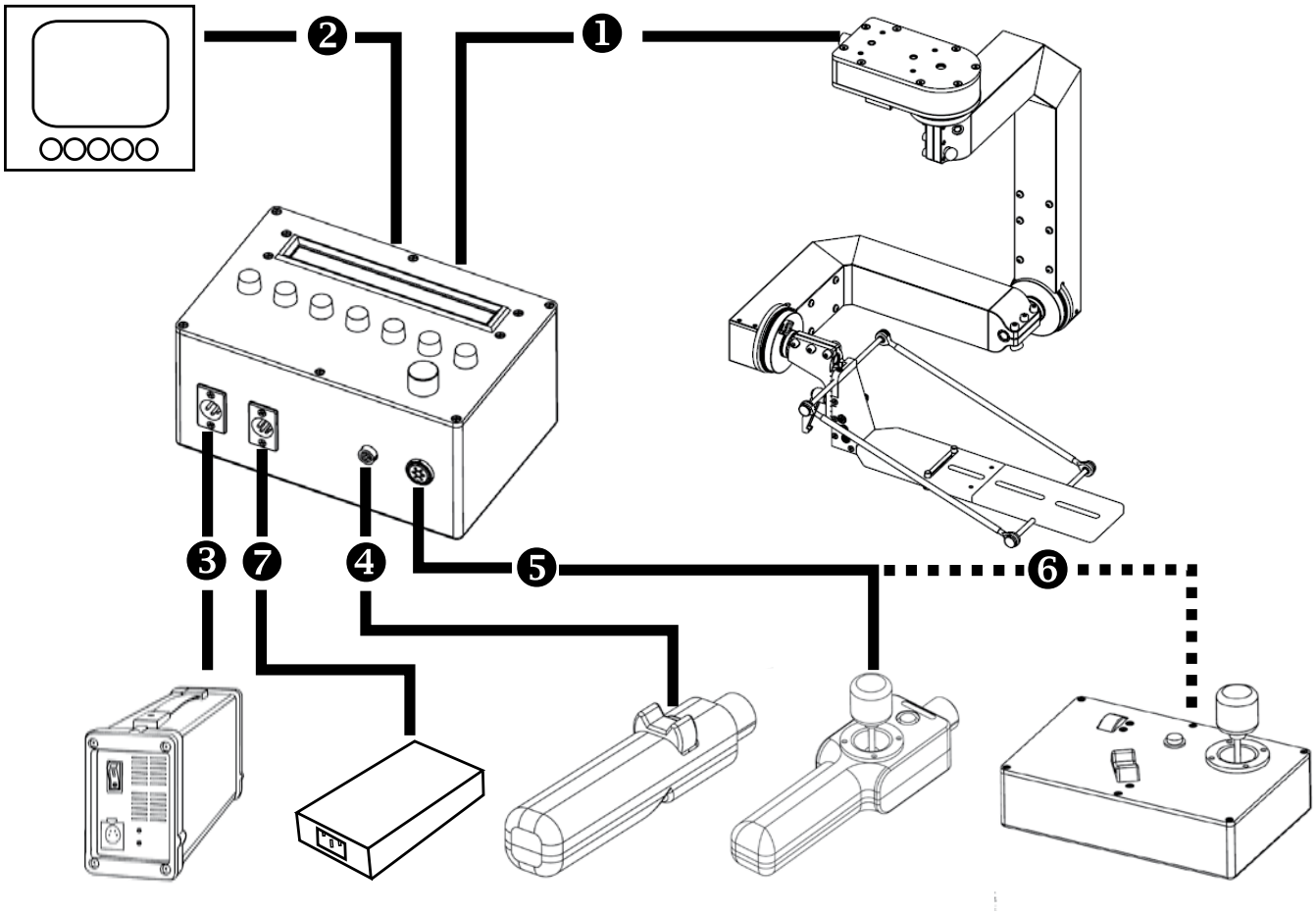
4.2 Illustration - CPU cabling



5. Start-up of remote head

- The camera and all accessories must be secured against falling. Use an additional security belt, safeties, or similar devices.
- Prior to start-up, check all screw connections, remove all loose or floppy parts.
- The allowable load capacity of the remote head (max. 15 kg/33lb) can not be exceeded.
- The allowable total weight of the crane can not be exceeded. The total weight of the remote head AND the camera is vital.

5.1 Prier to switch on remote head

1. Switch off the camera.
2. Turn the lens motors towards the lenses. Pay attention that the gearing inserts cleanly into the lens rings.

WARNING!

The FOCUS Ring at the lenses moves back and forth when rotated.

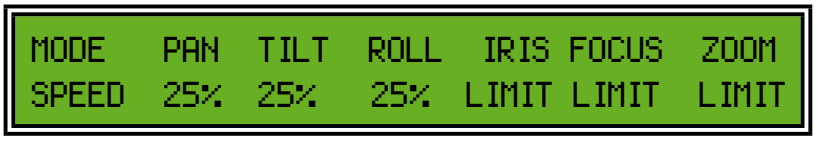
3. Test the immovability of the camera and if the compendium collides with the pan frame.
4. Affix loose cables and accessories, if necessary.

5.2 Switch on remote head

1. Connect the power supply, for example the TRIXY power supply DC 18 V (code no. 168910) to the POWER IN DC 12-20V socket on the CPU box.

The system begins with a short initialization (ca. 3 seconds)

If lens motors were connected, these are initializeda and calibrate themselves to the lens (ca. 10-15 seconds)



WARNING!

The joystick can not be deflected during initialization!

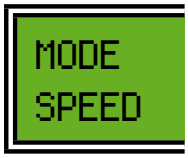
2. Switch off the CAMERA START / STOP - pushbutton switch; button is not illuminated. *
3. At last, switch on the camera.

* only with TRIXY, start/stop option for ENG Cameras

6. Operation of the remote head

All adjustments of the remote system can be called up and controlled via a simple menu in the CPU box.
By turning the MODE knob, the following modes can be called up:

6.1 Mode: SPEED



In the SPEED mode, the maximum speed can be adjusted separately for each axis of the remote head.
The speeds can be chosen from the following levels:

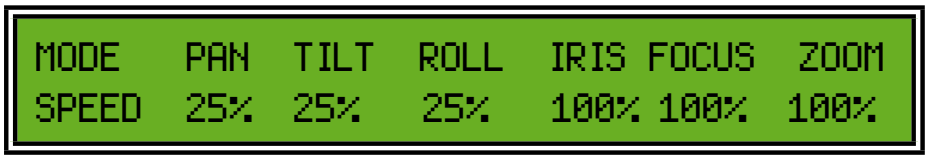
2, 3, 4, 6, 8 12, 17, 25, 35, 50, 70, 100%

Maximum speed can be adjusted via the respective knob in %.
100% corresponds to the technically maximum possible speed of the respective drives:

Axis	*max. motor speed*	*max. axis speed*
Pan, Tilt & Roll	3000 rpm	1 rotation / 2,8 sec.
Zoom, Focus & Iris	7500 rpm	1 rotation / 3 sec.

When adjusting a maximum speed of 50% for example, the complete adjusting range of the joystick remains available. Thus, the speed of 0 - 50% can be controlled with absolute dynamics and accuracy.

Factory setting after a new start as follows:



6.2 Mode: RAMP

MODE
RAMP

In the RAMP mode the electronic ramp can be adjusted separately for each axis of the remote head. The ramps can be chosen in the following nuances:

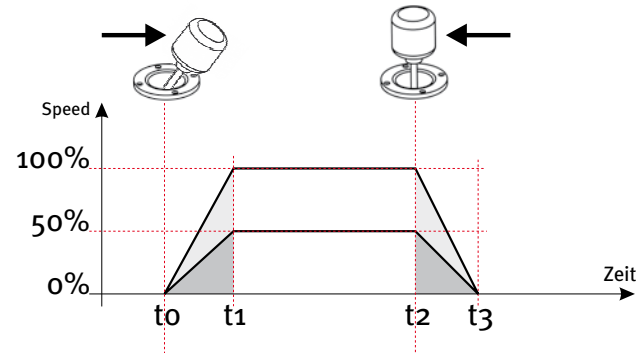
2, 3, 4, 6, 8 12, 17, 25, 35, 50, 70, 100%

The ramp can be adjusted in % via the respective knob. 100% corresponds to the maximum ramp of the respective axis.

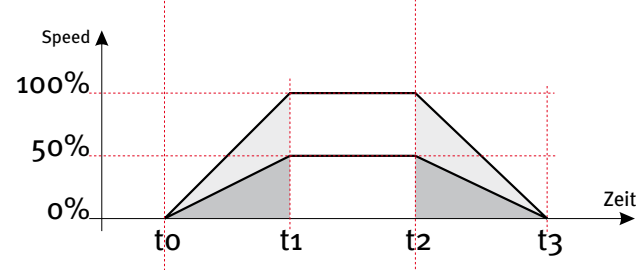
The electronic ramp can also be described as a time delay and helps the user to enable smooth and jerk-free movements of the camera.

As can be discerned form the following diagrams, the time delay (to-t1 or t2-t3) is independent from the pre-set maximum speed.

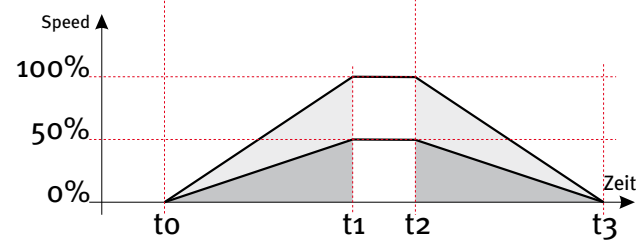
With the help of three examples (RAMP: 35, 70 and 100%), the diagrams show the theoretical course of speed. It is assumed that the joystick is deflected to the maximum at to and again returns to the zero position at t2.



at RAMP: 35%



at RAMP: 70%



at RAMP: 100%

Factory setting after a new start as follows:

MODE	PAN	TILT	ROLL	IRIS	FOCUS	ZOOM
RAMP	50%	50%	50%	3%	3%	3%

6.3 Mode: +R: -R

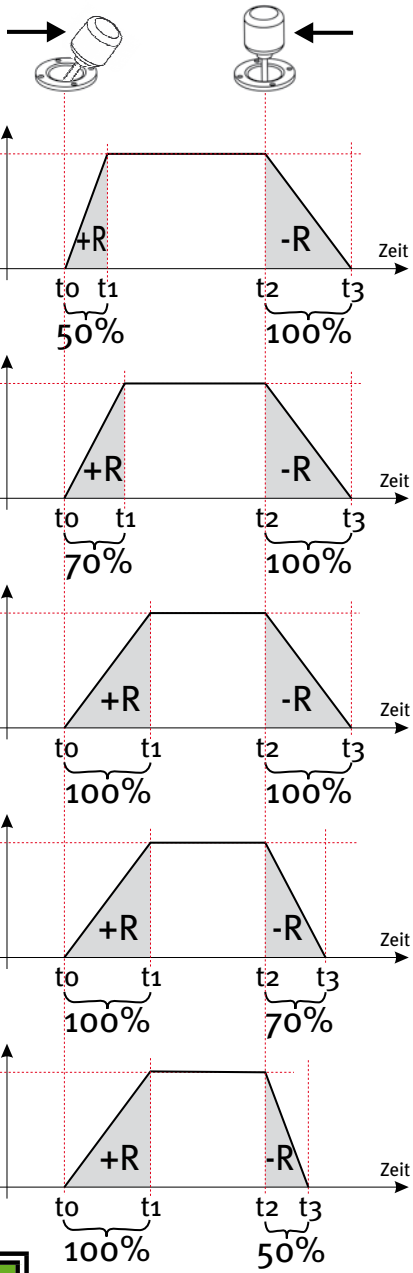
MODE
+R:-R

In the +R:-R mode, the ratio for each axis of the remote head can be adjusted separately between increasing and falling ramp.
The ratio can be selected in the following nuances:

50, 70, 100, 141, 200%

The ratio can be adjusted in % via the respective knob. 100% corresponds to the ratio 1:1 between increasing and falling ramp. The ratio thus also describes the difference between the acceleration and the slow-down of the remote head.

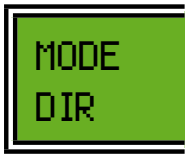
The diagram shows the theoretical course of speed per adjustment. It is assumed that the joystick is deflected to the maximum at to and again returns to the zero position at t2.



Factory setting after a new start as follows:

MODE	PAN	TILT	ROLL	IRIS	FOCUS	ZOOM
+R:-R	141%	141%	141%	100%	100%	100%

6.4 Mode: DIR



In the DIR mode, the rotation direction for each axis of the remote head can be adjusted separately. The rotation direction is chosen with the respective signs:

+1, -1

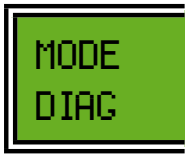
The rotation direction can be adjusted via the respective knob.

It may be useful to reverse the rotation direction, if the remote head is operated on a tripod. In such case, it is useful to reverse the rotation direction of the pan axis.

Factory setting after a new start as follows:

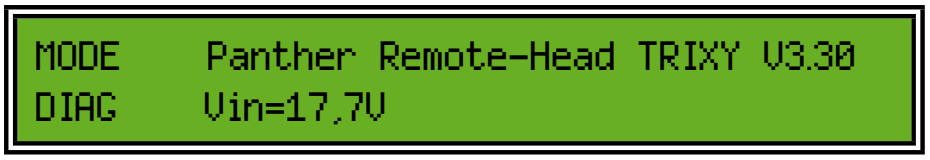
MODE	PAN	TILT	ROLL	IRIS	FOCUS	ZOOM
DIR	+1	+1	+1	+1	+1	+1

6.5 Mode: DIAG



The DIAG mode serves to show the status display of the remote head.

The display shows the software version and the input power (Vin) that is drawn form the XLR socket POWER IN DC 12-20V, in Volt.



7. Disassembly and shipping

Disassembly of the remote systems is generally implemented in the reverse sequence of the assembly. First, switch off the camera and remove the power supply of the remote head. Then, begin with the dismounting of the cabling and the mechanical components.

WARNING !

When operating the remote head in a crane system, it is absolutely necessary, to first remove sufficient counter weights!

The remote head comes in a special hard shell case. The case offers enough space for all three axes, all connection cables, and the necessary accessories. Respective notches are provided for all components..

8. Maintenance

The TRIXY remote head is a solid device that works reliably and functions without extensive maintenance work.
To be able to warrant high life expectation and constant quality, it is necessary to treat the components carefully and look after them.

NOTE !

Damage resulting from improper handling is not warranted.
Likewise, there is no warranty in case the seals are damaged

After each use, especially in dirty, dusty, sandy, moist, or salty environments, the device must be serviced and cleaned carefully. Pay attention to the mobility of all connections.

WARNING !

Immediately interrupt all use if only one part of the device is damaged or missing.

Maintenance and repair work can only be implemented by qualified specialists. The PANTHER Company offers service seminars that are held upon request. Please call +49 (89) 613 900 30 (PANTHER - Service) for scheduling coordination.

Test all components for completeness and damage during each assembly, e.g. bent pipes, loose screws, etc. These components must be exchanged, if necessary.

9. Warranty

We warrant that the products are free of manufacturing defects in material. Both for mechanical and for electronic parts, the warranty period is 12 months. The warranty
period begins with the date of delivery.

Any warranty shall, however, expire if our operating and maintenance instructions are not complied with, if changes are made to the products, or if parts of our equipment
are replaced with parts that do not correspond to the original specifications; the same shall apply to improper handling of the equipment.

The purchaser undertakes to exempt us from any claims for compensation which might arise on the part of third parties vis-à-vis us, whether resulting from putting into service or from using the equipment. The purchaser must inform our costumer service management in writing about any discernible defects without delay – at the latest, however, within one week after receipt of the delivered item. Defects which do not become discernible within this period, even after careful examinations, must be reported to us by the purchaser in writing immediately after discovery.

In the event that the purchaser should report that the products do not correspond to the warranty, we may require at our discretion that either

a) the defective equipment or the defective part is to be sent to us for repair and subsequent return,

   or

b) the purchaser keeps the defective equipment or the defective part available, and we shall commission an expert who will be sent to carry out the repair.

Transport cost and travelling expenses incurred for the purpose of remedying defects shall be borne by the purchaser.

Defects which occur to the equipment as a result of natural wear and tear shall not be covered by the warranty. When asserting claims under warranty, it is the duty of the purchaser to prove that the defects were not caused by circumstances which are among the risks within his sphere of responsibility (such as transport damage, improper operation, etc.).

Any further claims in particular claims for damages for direct or indirect damage are excluded.
If after an appropriate time it is not possible to remedy the defect, the purchaser may at his discretion demand a reduction of the payment or cancellation of the contract.

Only the direct purchaser shall be entitled to make warrantly claims against us; such claims are not assignable.

Oberhaching, December 2007

10. EU - Declaration of Conformity

The product has been developed, designed and manufactured in conformity with the following regulations:		
EC regulations:	Maschinenrichtlinie	98/37/EG
harmonized Regulations of technic:	Sicherheit von Maschinen	DIN EN 292-1: 11/1991 DIN EN 292-2: 6/1995
national regelations:	Veranstaltungs-und Produktions-stätten für szenische Darstellung	BGV C1 (vorherige VBG 70) April 1998
The technical documentation is existing completely. The Operating Instruction that belong to the machine is submitted.		
Oberhaching, December 31, 2007		 Erich Fitz, Managing Director
We have fulfilled the essential safety and health requirements. In case of technical change of the machine made by a third party this declaration looses its validity.		