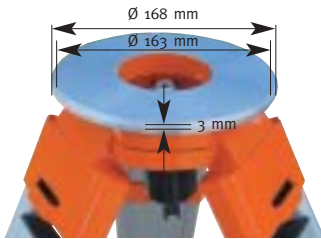


System 168: Tripod Holder for Field Calculators



Tripods for field calculator holder

head diameter 168 mm. The ring of the holder is placed on a small ledge.

- no plate in between necessary, which could influence the power transmission tripod-tribrach
- the tribrach remains fully movable
- the tripod holder can also be removed or attached with centred tribrach.



Regular tripods (heavy design)

with a ledge already screwed on the tripod head.

Manufacturer	Material	Clamping	Order-No.
NEDO	Aluminium	eccentric	200524 Plus 149,- €
NEDO	wood	eccentric	200513 Plus 149,- €
NEDO	wood	screws	200533 Plus 149,- €
Glunz	Aluminium	eccentric	1132-E-Plus 183,- €
Glunz	wood	eccentric	1129-E-Plus 178,- €
Glunz	Aluminium	screws	1132-Plus 175,- €
Glunz	wood	screws	1129-Plus 170,- €



Adapter Rings System 168

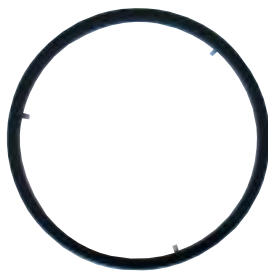
Already existing tripods with a smaller head diameter can be easily refitted with adapter rings made of synthetic material.

The adapter rings made of black shock-proof synthetic material can be attached with 3 screws. To do this, you only have to drill three holes with $\varnothing 4,0$ mm on the side of the tripod head. The rings have an uniform external diameter of 168 mm. The internal diameter is adapted to the tripod type (also suitable for triangular tripod plates, for example Leica (WILD)).

The following rings are available:

Tripod type	head \varnothing	adapter ring Order-No.
CST 60-WDF20, 60-ALQR20	approx. 153 mm	1960 30,- €
Leica (triangular tripod plates)	approx. 156 mm	1962 30,- €
Glunz G3, G3M	approx. 158 mm	1965 30,- €
Nedo 200100, 200200	approx. 139 mm	1968 30,- €
Nedo 200512, 200523	approx. 157 mm	1969 30,- €

Adapter rings for additional tripod types available upon request!



Rotatable tripod holder Uni 168

The holder can be used together with above mentioned tripods.

- The cylinder \varnothing of 31 mm at the side to attach clamping systems as they are used for tripod legs or GPS and prism poles.
- Suitable for field calculators up to 1 kg weight.
- The counter weight grants an even loading of all tripod legs when turning the holder.



Uni 168, incl. counter weight	Order-No. 1900	135,- €
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System 168: clamps for the tripod holder Uni 168

Uni clamps

The open profile allows screwing the uni clamps:

- on the above tripod holder Uni 168 (s. page 44)
- as well as on prism and antenna poles. No complicated threading necessary. For poles of \varnothing 19 – 32 mm.



Uni clamp	Order-No. 1890	60,- €
Uni clamp with circular level (45°)	Order-No. 1891	65,- €
Uni clamp with compass	Order-No. 1893	65,- €
Uni clamp with circular level (45°) and compass	Order-No. 1892	75,- €



Uni holder

For electronic field books to connect to the Uni clamp 1890-1893 by a quick connection.

A variable positioning pin assures different inclinations of the calculator holders and fixes the position chosen.

for field computer	Order-No.
Husky FS-Series and MP 2500	1895 90,- €
Husky FS-Series	1896 90,- €
Sokkia SDR 33 and Trimble TDC 1	1897 90,- €
Trimble TSC 1 and Husky MP 2500	1898 90,- €

Holdings for further calculators on request!





System 168: Tripod holders for field calculators

Panasonic CF-P1 on rotatable tripod holder Uni 168

The use of the CF-P1 is possible for the holders with Order-No. 5182.1 and 5184.1 (see catalogue page 52)!



The use of other light field calculators (up to max. 1 kg) with the rotatable tripod holder Uni 168 is possible with the support of our double joint traverse in a simple way.
– Please request when needed! –



Rotatable tripod holder T 168

For Trimble TSC1, Husky MP2500, FS/GS and FS-series.

Firm unity of tripod ring and field computer holder. Stable clamping of the field computer in the holder. Smooth inclination of the holder for optimal viewing and handling of the field computer.

T 168 (incl. counter weight)

Order-No. 1915

199,- €

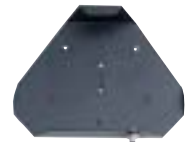


ITRONIX
Husky fex21

Panasonic
Toughbook
CF-VDW07

Panasonic
Toughbook
CF-18

Walkabout
Hammerhead
XRT



Holders for Panasonic Toughbook CF-18 and Walkabout Hammerhead XRT

For the universal use of the calculators in the field

- light metal construction finished in black
- Different female threads installed in the centre to connect with tripods, GPS- and prism poles, etc.:
 - 1/4" photo thread
 - M8 (3/8" on request)
 - 2 x M5 thread for ball joint Ø 25mm
- Very quick positioning and removing of the calculators from the holder by a quick clamp: for the CF-18 with a rotatable lever, for the XRT with a snap lock.
- Transport of the calculator also possible in headfirst position (for the CF-18 in the laptop as well as in the tablet PC function)
- Without further accessories, the holder can be used:
 - With normal photo tripods with 1/4" thread
 - With our light tripod (see catalogue page 54)
- Weight: 490 / 440 g



Holder for Panasonic CF-18	Order-No. 5170	148,- €
Holder for Hammerhead XRT (with protection)	Order-No. 5250	148,- €
Holder for Hammerhead XRT (with reflector)	Order-No. 5250.R	168,- €

Traverses

The attachment on the tripods legs and on GPS- and prism poles can be done with a clamp which will be inserted on the side and fixed with a handle.

For the connection between holder and leg/ pole clamp, 3 different types of traverses are available:



Telescopic-Traverse



Profile-Traverse



Double joint Traverse



- **Telescopic traverse:** the adaptation of the length can be done with a telescopic extension. A stable ball joint with a M8 connection facilitates the quick optimised positioning of the holder. It can be rotated and tilted and can be used in an optimum distance to the tripod leg or pole.
- **Profile traverse:** Very strong traverse made of aluminium 30x30mm. The optimised installation of the holder is also done by a ball joint with M8 connection. The construction of the ball joint allows the adaptation and the fixation of the distance to the tripod leg or pole.
- **Double joint traverse:** A ball joint Ø 25mm will be screwed on the calculator holder (2x M5). The 2nd ball joint is attached at the leg/pole clamp. With a central turning lever on the double joint traverse, the holder can be fixed in an optimised position (rotating, tilting, and inclining). Also, the optimised adaptation of the distance to the tripod leg or the pole is possible. The two ball joints are covered with elastic to make them more shock resistant.

Traverse	Weight Traverse	Incl. holder for Panasonic CF 18		Incl. holder for Hammerhead XRT	
		With clamp for Ø 18-32 mm	With clamp for Ø 30-45 mm	With clamp for Ø 18-32 mm	With clamp for Ø 30-45 mm
		Order-No.	Order-No.	Order-No.	Order-No.
Telescopic-Traverse	340 g	5172.1 255,- €	5172.2 255,- €	5252.1 255,- €	5252.2 255,- €
Profile-Traverse 30x30 mm	410 g	5173.1 255,- €	5173.2 255,- €	5253.1 255,- €	5253.2 255,- €
Double joint Traverse (incl. Ball joint for Calculator Holder)	350 g	5174.1 255,- €	5174.2 255,- €	5254.1 255,- €	5254.2 255,- €

Centric tripod/pole connections

If the holders should be used with a tripod or a pole, the following adaptation possibilities are available:

Ball joint M8



Assures in a few seconds the optimum positioning of the calculator regarding ergonomics and sun light.

- Simple and stable clamping of the position chosen
- Top: M8 male thread for attachment at the calculator holder
- Bottom: M8 female thread to screw it on
 - Poles with M8 male thread
 - Adapter stubs (see below)
 - Tripod plates (see below)

- Maximum load: 15 kg
- Weight: 140 g

Ball joint M8

Order-No. 5081

48,- €

Adapter stubs Ø 25mm



- Top: M8 male thread to screw in
 - The above mentioned ball joint M8 or
 - Directly into the calculator holder (inclining and rotating must then be done by moving the tripod)
- Bottom: 5/8" female thread for use on one-leg tripods (to put in natural ground) or other poles with 5/8" male thread
- Outside Ø 25mm: for the use on simple ranging poles or prism pole tripods with cylindrical connection and clamping.

Adapter stub Ø 25 mm, M8 male thread

Order-No. 383

24,50 €

Tripod plate with M8 male thread



Stable construction made of anodised aluminium.
For application on tripods with a flat tripod head.

- Top: M8 male thread to screw in
 - The above mentioned ball joint M8 or
 - Directly into the calculator holder (inclining and turning must then be done by moving the tripod)
- Bottom: 5/8" female thread to attach on tripod with 5/8" screw.

Tripod plate 5/8", M8 male thread

Order-No. 3035

35,- €

Examples of applications:



Holder for Panasonic CF-VDW07 (Display) and ITRONIX Husky fex21

For the universal use of the calculators in the field

- light metal construction finished in black
- different female threads installed in the centre to connect with tripods, GPS- and prism poles, etc.:
 - 1/4" photo thread
 - 2x M5 thread for ball joint Ø 25mm
- very quick positioning and removing of the calculators from the holder by a quick clamp with a rotatable lever.
- The hand loops have not to be removed to put it in the holder
- Transport of the calculator also possible in headfirst position
- Without further accessories, the holder can be used:
 - With normal photo tripods with 1/4" thread
 - With our light tripod (see catalogue page 54)
- Weight: 340 g



Holder for Display Panasonic CF-VDW07	Order-No. 5090	148,- €
Holder for ITRONIX Husky fex21	Order-No. 5190	148,- €

- as long as stocks last -

Traverses

The attachment on the tripods legs and on GPS- and prism poles can be done with a clamp which will be inserted on the side and fixed with a star handle.



For the connection between holder and leg/ pole clamp, 2 different types of traverses are available:

- **Telescopic traverse:** the adaptation of the length can be done with a telescopic extension. A stable ball joint with a 1/4" connection facilitates the quick optimised positioning of the holder. It can be rotated and tilted and can be used in an optimum distance to the tripod leg or pole.
- **Double joint traverse:** A ball joint Ø 25mm will be screwed on the calculator holder (2x M5). The 2nd ball joint is attached at the leg/pole clamp. With a central turning lever on the double joint traverse, the holder can be fixed in an optimised position (rotating, tilting, and inclining). Also, the optimised adaptation of the distance to the tripod leg or the pole is possible. The two ball joints are covered with elastic to make them more shock resistant.



Telescopic-Traverse



Double joint Traverse

Traverse	Weight Traverse	Incl. holder for Panasonic CF-VDW07		Incl. holder for ITRONIX Husky fex21	
		With clamp for Ø 18-32 mm	With clamp for Ø 30-45 mm	With clamp for Ø 18-32 mm	With clamp for Ø 30-45 mm
		Order-No.	Order-No.	Order-No.	Order-No.
Telescopic Traverse	320 g	5100.1 255,- €	5100.2 255,- €	5200.1 255,- €	5200.2 255,- €
Double joint Traverse (incl. Ball joint for Calculator Holder)	350 g	5105.1 255,- €	5105.2 255,- €	5205.1 255,- €	5205.2 255,- €

Centric tripod/pole connections

If the holders should be used in a centric position with a tripod or a pole, the following adaptation possibilities are available:

Ball joint 1/4"



- Assures in a few seconds the optimum positioning of the calculator regarding ergonomics and sun light.
- Simple and stable clamping of the position chosen
 - Top: 1/4" male thread for attachment at the calculator holder
 - Bottom: 1/4" female thread to screw it on
 - Poles with 1/4" male thread
 - Adapter stubs (see below)
 - Tripod plates (see below)
 - Maximum load: 10 kg
 - Weight: 80 g

Ball joint 1/4"

Order-No. 5080

45,- €

Adapter stubs Ø 25mm



- Top: 1/4" male thread to screw in
 - The above mentioned ball joint 1/4" or
 - Directly into the calculator holder (inclining and turning must then be done by moving the tripod)
- Bottom: 5/8" female thread for use on one-leg tripods (to put in natural ground) or other poles with 5/8" male thread
 - Outside Ø 25mm: for the use on simple ranging poles or prism pole tripods with cylindrical connection and clamping.

Adapter stub Ø 25 mm, 1/4" male thread

Order-No. 390

24,50 €

Tripod plate with 1/4" male thread



- Stable construction made of anodised aluminium.
For application on tripods with a flat tripod head.
- Top: 1/4" male thread to screw in
 - The above mentioned ball joint 1/4" or
 - Directly into the calculator holder (inclining and turning must then be done by moving the tripod)
 - Bottom: 5/8" female thread to attach on tripod with 5/8" screw.

Tripod plate 5/8", 1/4" male thread

Order-No. 3030

35,- €

Examples of applications:





Holders for the Mini PC Panasonic CF-07

For the universal attachment of the Mini PC on tripods or GPS poles.

With the possibilities to attach the holder CF-07, the calculator can be used as follows:

- on the tripod: hanging in the splicing plate (picture 1)
- on the GPS pole or on the tripod leg: attached with a screw clamp (picture 2)

The fixation of the calculator in the holder is done in a second by a clamp lever. The calculator is secured against falling off and can also be transported in a headfirst position (for example at the GPS pole).

Holder CF-07, only with splicing plate	Order-No. 5150	85,- €
Holder CF-07, with splicing plate and clamp screw	Order-No. 5151	145,- €

Holder for Panasonic Toughbook CF-P1

For use of the handheld computer in the field

Light tripod
easy going
s. catalog page 54

- Light metal construction finished in black
- different female threads installed in the centre to connect with tripods, GPS- and prism poles, etc.:
 - 1/4" photo thread
 - 2x M5 thread for ball joint Ø 25mm
- very quick positioning and removing of the calculators from the holder by a quick clamp with a turning lever.
- To put it into the holder, the handle has not to be removed
- Transport of the handheld also possible in a headfirst position
- Without further accessories, the holder can be used:
 - With normal photo tripods with 1/4" thread
 - With our light tripod (see catalogue page 54)
- Weight: 140 g

Holder for Panasonic CF-P1	Order-No. 5180	85,- €
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The use on tripods or poles

The attachment on the tripod legs, GPS- and prism poles and on the rotatable tripod holder Uni 168 can be done with an aluminium clamp which will be inserted on the side and fixed with a star handle.

For the connection between screw-clamp and holder, 2 different types are available:

- Ball joint 1/4": The handheld holder will be screwed into the 1/4" thread of the ball joint. The ball joint facilitates the quick optimised positioning of the holder. It can be rotated and tilted and can be used in an optimum distance to the tripod leg or pole.
- Double joint traverse: A ball joint Ø 25mm will be screwed on the calculator holder (2x M5). The 2nd ball joint is attached at the leg/pole clamp. With a central turning lever on the double joint traverse, the holder can be fixed in an optimised position (rotating, tilting, and inclining). Also, the optimised adaptation of the distance to the tripod leg or the pole is possible. The two ball joints are covered with elastic to make them more shock resistant.

For both applications, the handheld computer may be used as following:

- on the leg of the instrument tripod
- on the GPS- or prism pole
- on the rotatable tripod holder Uni 168 (see catalogue page 44)

Equipment: Holder CF-P1 with	Weight	With screw clamp for Ø 18-32 mm	With screw clamp for Ø 30-45 mm
		Order-No.	Order-No.
Ball joint 1/4"	80 g	5182.1 190,- €	5182.2 190,- €
Double joint traverse ball joint for calculator holder)	250 g	5184.1 190,- €	5184.2 190,- €

Centric tripod/pole connections

Possibilities for a centric use of the holders on a tripod or a pole: see catalogue page 51

Holder for OPC data modem NiceCom 800

For the data transmission by radio, one modem has to be connected to the total station/EDM and another one to the external field calculator (laptop, tablet PC, handheld etc.)

For this application of geometers, we have developed a special holder for the modem NiceCom 800:

picture 1



picture 2



picture 3



picture 4



picture 5

- light metal construction finished in black
- very quick positioning and removing of the modem from the holder:
 - by quick lock with a rotary lock
 - by Velcro® fastener
- splicing plate to hang on the instrument tripod (picture 1)
- the modem is secured against falling off and can also be transported in a headfirst position (for example at the GPS- or prism pole).

The holder is available in two more formats to attach on cylindrical poles:

- with an aluminium clamp and screw clamp
- with a spring steel clamp and Velcro® fastener

The holder provides the following ways of attachment in this format:

- on the instrument tripod:
 - by hanging on the splicing plate at the tripod head (picture 1)
 - by clamping it on a tripod leg with spring steel clamp (picture 2) or with an aluminium clamp with screw clamp (picture 3)
- on the GPS- or prism pole:
 - by clamping it on the pole with a spring steel clamp (picture 4) or with an aluminium clamp with screw clamp (picture 5)



picture 6



picture 7



picture 8

Equipment: Holder NiceCom 800 with

	Weight	Order-No.
Splicing plate to hang on the tripod head (picture 6)	140 g	5300 83,- €
Additionally, with aluminium clamp and screw clamp For pole Ø 18-32 mm (picture 7)	250 g	5302 143,- €
Additionally, with aluminium clamp and screw clamp For pole Ø 30-45 mm	270 g	5305 143,- €
Additionally, with spring steel clamp and Velcro® fastener For pole Ø 20-35 mm (picture 8)	160 g	5325 88,- €

Use of the NiceCom holder with the Panasonic Toughbook CF-18 and the Walkabout Hammerhead XRT

If you use a field calculator, there has to be a permanent cable connection between the calculator and the NiceCom modem.

If you often change between using it on the light tripod, the GPS pole and prism pole, it would be useful that the holders for both tools build a unity.

Therefore it is possible to screw both holders together.

A separation of the cable connection would then not be necessary anymore if you use it differently.

All holders for the CF-18 (Order-No. 5170-5174, see catalogue page 48) and the Hammerhead XRT (5250-5254, see catalogue page 48) are already prepared accordingly.

All holders for the CF-18 (Order-No. 5170-5174, see catalogue page 48) and the Hammerhead XRT (5250-5254, see catalogue page 48) are already prepared accordingly.

From the above mentioned NiceCom holders, the order numbers 5300, 5302 and 5305 are suitable.





Light tripod easy going for field calculators / notebooks

The ideal use of a field calculator not integrated in the total station/EDM was the rotatable holder directly on the instrument tripod (our system 168, see catalogue page 44).

Large amounts of data, which have to be available in the field today, as well as the desire to do the complete data processing already in the field, have made it necessary to use a notebook with a strong processor, high memory capacity and a large display. This is not possible directly on the instrument tripod because of its high weight. Our investigations during use have shown, that more measuring errors are produced with a weight of more than 1 kg. In addition, the holder together with the necessary counter weight is heavy and uncomfortable to use.

Another reason to separate the notebook from the instrument tripod is the modern way of measuring – in the one-man-operation or with the robotic measuring the total station/EDM will be operated from a control unit or with the notebook. The data transmission by cable will then be replaced by a Bluetooth or radio connection without cable. The solution with radio covers also large distances (1 km).

However, when using a notebook (laptop, tablet-PC), which will be hold with a carrier system around the neck, the relatively high weight of the machine is uncomfortable during longer use.

The use of the calculator on a light tripod does also resolve this problem. Together with a data transmission without cable, the notebook can be placed anywhere near the total station/EDM. When measuring in the robotic mode, the simple taking and placing of the calculator directly at the object point is possible. There is no disturbing heavy tools around the neck; the operator can do something else during measuring.

The new calculator tripod **easy going** was developed especially for this area of application. It is characterized by the following details of construction:

- very simple use and extremely robust
- very light (weight: 850 g)
- legs and middle strut made of very durable compound material: blend of carbon/fibre glass
- comfortable carrying of the tripod also during cold weather
- secure clamping of the middle strut with a high quality synthetic clamp and an eccentric clamp lever
- red coloured for better visibility in the traffic, on the construction sites etc.
- dimensions: 0,75 m (retracted) till 1,2 m (extended)
- many connections for different calculator holders
- alternatively available with changeable pins of stainless steel or elastic balls

Light tripod easy going



Light tripod easy going Connection Calculator/notebook/holders	with tripod legs	
	pins of stainless steel Order-No.	elastic balls Order-No.
1/4" male thread	5350.1 220,- €	5350.2 220,- €
M8 male thread	5351.1 220,- €	5351.2 220,- €
3/8" male thread	5352.1 220,- €	5352.2 220,- €
receptacle for joint ball Ø 25 mm	5353.1 240,- €	5353.2 240,- €

Additional equipment:

Changeable tripod legs:



Pins of stainless steel with M6 female thread, 3 pieces	Order-No. 5355	20,- €
Elastic balls with M6 female thread, 3 pieces	Order-No. 5356	20,- €

Tripod upper part for connection of the calculators or holders

Ball joint 1/4" for the tripod easy going – Order-No. 5350 –

The ball joint 1/4" will be screwed on the light tripod. On this the calculator holder will be screwed also with a 1/4" thread.

- Easy and stable clamping of the ball joint with a star handle on the side
- Assures in a few seconds the optimum positioning of the calculator regarding ergonomics and sun light.
- Maximum load: 10kg
- Weight: 80g



Ball joint 1/4"

Order-No. 5080

45,- €

Ball joint M8 for the tripod easy going – Order-No. 5351 –

The ball joint M8 will be screwed on the light tripod. On this, the calculator holder will be screwed also with a M8 thread.

- Simple and stable clamping of the position chosen
- Assures in a few seconds the optimum positioning of the calculator regarding ergonomics and sun light.
- Maximum load: 15 kg
- Weight: 140 g

Ball joint M8

Order-No. 5081

48,- €

Joint ball Ø 25mm for the tripod easy going – Order-No. 5353 –

The joint ball will be screwed on any calculator holder (2xM5 thread).

- Easy installation of the joint ball and the calculator holder in the ball connection of the light tripod.
- Clamping of the joint ball with a turning lever
- Assures in a few seconds the optimum positioning of the calculator for the measuring
- Suitable for the light tripods for calculators upto 4 kg
- Weight: 40g

- Further possibilities of using the joint ball as calculator holder on the instrument tripod, GPS- or prism pole with double-joint traverse (see catalogue page 48)



Joint ball Ø25mm, with 2 M5 screws

Order-No. 5175

18,- €



Examples of application:

