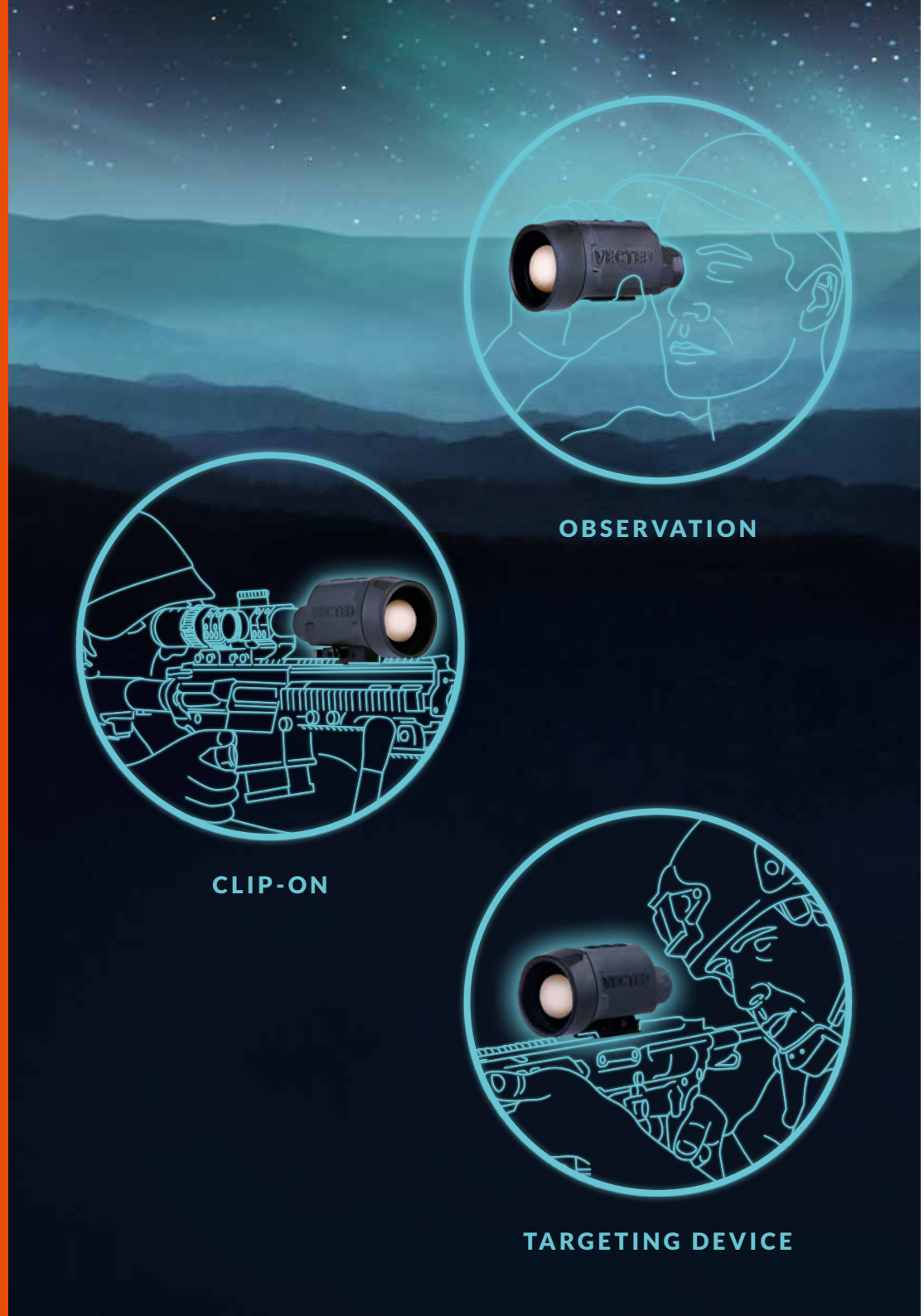
VECTED

ENGINEERING. ADVANTAGE

PRODUCT OVERVIEW

THERMAL IMAGING EQUIPMENT FOR
PROFESSIONAL DAY AND NIGHT USE



OUR THERMAL IMAGING DEVICES – VISIBLY SUPERIOR

When it comes to making the invisible visible, thermal imaging devices are the optimal choice. With a classic night vision device (residual light amplifier), you can only see as well at night as if you had turned on a weak flashlight. A perpetrator in camouflage clothing leaning against a tree, a missing child lying on the ground in the forest, or a burglar hiding in a bush are practically impossible to find with these devices. On the screen of a thermal imaging device, however, these people, in all three cases mentioned, stand out clearly from their surroundings. And this not only at night, but also during the day or in fog and smoke.

VECTED thermal imagers are therefore the best choice for governmental, civilian or military users when it comes to making the invisible visible.

SYSTEM DESCRIPTION

Our thermal imaging devices are multipurpose devices. They can be used as handheld observation devices, but if necessary, they can be mounted in front of an existing daylight optic within seconds or they can be used as standalone target devices. All thermal imaging devices from VECTED are also based on the same electronics and software design. This means that the user interface – the operation – is consistent across all devices.

If a user is already familiar with one of our devices, he can work with other devices from our product line without further training or familiarization time. Our thermal imaging devices share a compact, lightweight design without sacrificing ruggedness or performance.

To free the user as much as possible from interfering with the image display (e.g. gain setting), the algorithms used continuously analyze the image content and adjust the image processing parameters accordingly. In this way, all image content remains visible and overexposure or underexposure is automatically prevented. The result is a natural-looking image, similar to that of a black-and-white camera. This is a great advantage, especially for critical operations.

VECTED – WHO WE ARE

VECTED GmbH, based in Fürth, Germany, specializes in optoelectronics, in particular thermal imaging technology and exterior ballistics. Since 2005, we have been active worldwide as a developer and supplier of subcomponents and complete devices in both areas for large and well-known manufacturers. After having successfully sold several thousand thermal imaging devices to well-known customers as OEM since 2005, we decided in 2019 to start distributing our devices also under our own name, primarily to government agencies.

The devices, including the electronics and image processing, are developed by VECTED itself at the company headquarters in Fürth, Germany, where the focus is also on the use of European key components, such as sensor, microdisplay, optics, etc.. Thus our devices are not subject to ITAR.

Due to this high degree of in-house development, VECTED can react specifically and quickly to user requests and feedback and offer customer-specific adaptations even for small quantities, for example a modified menu navigation, special false colors or customer-specific reticles.

DEVICES AND AREAS OF APPLICATION

SYSTEM	USE	PERFORMANCE PARAMETERS	
TC-640-60	Observation Clip-on Targeting Device	Detection: Recognition: Identification: Magnification: Display Resolution: Sensor:	**2700 m** **950 m** **510 m** **1x, 2x, 4x, 8x** **1280 x 960** **640 x 480, 12 µ**
TC-640-50	Observation (Clip-on) (Targeting Device)	Detection: Recognition: Identification: Magnification: Display Resolution: Sensor:	**2400 m** **750 m** **420 m** **1x, 2x, 4x, 8x** **640 x 480** **640 x 480, 12 µ**
TC-320-35	Observation (Clip-on) (Targeting Device)	Detection: Recognition: Identification: Magnification: Display Resolution: Sensor:	**1300 m** **450 m** **230 m** **1x, 2x, 3x , 4x** **640 x 480** **320 x 240, 17 µ**
TC-320-25	Observation Clip-on Targeting Device	Detection: Recognition: Identification: Magnification: Display Resolution: Sensor:	**900 m** **300 m** **160 m** **1x, 2x, 3x , 4x** **640 x 480** **320 x 240, 17 µ**

If there is nothing suitable for your application, please contact us. We will be pleased to configure or develop devices according to your requirements.

640 640ER SERIES

The devices of the 640 series can be used universally. Thus, the change from a hand-held observation device to a targeting device on a scoped rifle is possible in seconds thanks to our patented quick-mounting system with high repeat accuracy.

Of course, where legally permissible, the devices can also be used as a target device in the shortest possible time thanks to the simple and intuitive menu navigation. In all modes, the 640 series convinces with a very high detection performance at all distances, a clear and high-contrast image and thus lays the foundation for a successful mission.

MAIN FEATURES 640´S

- **Multi-purpose thermal imagers with switchable modes of use (Observation-, Clip-on-, Targeting Device)**
- **In-line optics, factory calibrated (no offset when used as a Clip-on)**
- **Adaptive local contrast gain and automatic gain adjustment**
- **Digital zoom: 1x, 2x, 4x, 8x**
- **Customized usage modes, reticle, menu system and color palettes**
- **Built-in interface for power supply and remote control (optional)**
- **Photo and video recording, video via wifi (optional)**
- **Displayport and USB port for live video transmission**
- **Bluetooth and wifi connectivity (optional)**
- **Qi wireless charging (optional), USB-C compatible data and charging port**
- **Remote control (optional)**
- **Body with protective rubber (increased grip and protection)**
- **Various weapon mounts available (STANAG 4694 - NATO Accessory Rail / Picatinny, hook frog mount)**
- **Made in Germany with key components from European production, ITAR free**

TECHNICAL DATA 640 SERIES

		TC-640-50	TC-640-60
SYSTEM	Use	Hand held, front attachment, weapon sight	
	Sensor	640 x 480, 12 µ, 60 Hz	640 x 480, 12 µ, 60 Hz
	Sensor NETD	< 40 mK	< 40 mK
	Sensor Spectrum	LWIR (8 – 14 µm)	LWIR (8 – 14 µm)
	Objective Lens	50 mm, f/1.0	60 mm, f/0.95
	Field of view	8.8° x 6.6° (d 11.0°)	7.3° x 5.5° (d 9.1°)
	Display Resolution	640 x 480	1280 x 960
DIMENSIONS	Length / Height / Width	144 / 66 / 66 mm	156 / 76 / 74 mm
	Weight incl. Battery	< 520 gram	< 600 gram
WORKING RANGES*	Detection	2400 m	2700 m
	Recognition	810 m	980 m
	Identification	420 m	510 m
POWER	Battery Run-Time	6 h	6 h
	External Power Supply	USB Type-C (optional Qi wireless charging)	
ENVIRON-MENT	Operating Temp.	-32°C to +63°C	-32°C to +63°C
	Storage Temp.	-40°C to +70°C	-40°C to +70°C
	Immersion	10 m	10 m
	Rifle Shock	750 g	750 g
IMAGING CHARACTE-RISTICS	Focus	manual	manual
	Diopter Adjustment	collimated to scope	collimated to scope
	Magnification	1 x	1 x (@ 640 x 480 d.r.)
	Alignment	< 0.34 mrad	< 0.25 mrad
	Digital Zoom	1x, 2 x, 4 x, 8x	1x, 2 x, 4 x, 8x
	Optical Co-Use	2 x bis 6 x	2 x bis 8 x
	Display Color	full color, RGB	full color, RGB
	Image Storage	> 1000	> 1000
	Video Storage (h.264)	approx. 4 h	approx. 4 h
OTHER	Digital Compass / IMU	yes	yes
	Weapon Mount	customer specific	customer specific

* Range performance simulation with TRM4 v3 according to STANAG 4347 with human sized target

320 SERIES

The 320 series is the „little sister“ of the 640 series with a reduced range and is therefore ideally suited for urban operations. Of course, the 320 series can also be used universally. For example, thanks to our patented quick-mounting system with high repeat accuracy it takes only seconds to transform a hand-held observation camera into a clip-on device on a rifle with a telescopic sight. Of course, where legally permissible, the devices can also be used as a target device in the shortest possible time thanks to the simple and intuitive menu navigation. In all modes, the 320 series convinces with a very high detection performance, a clear and high-contrast image and thus lays the foundation for successful use in urban environments.

MAIN FEATURES 320´S

- **Multi-purpose thermal imagers with switchable modes of use (Observation-, Clip-on-, Targeting Device)**
- **In-line optics, factory calibrated (no offset when used as a sighting device)**
- **Adaptive local contrast gain and automatic gain adjustment**
- **Digital zoom 2x, 3x, 4x**
- **Customized usage modes, reticles, menu system and color palettes**
- **Built-in interface for power supply and USB port**
- **Photo recording**
- **Analog PAL composite video output**
- **Body with protective rubber (increased grip and shock absorption)**
- **Various weapon mounts available (STANAG 4694 - NATO Accessory Rail / Picatinny, hook frog mount)**
- **Made in Germany with key components from European production, ITAR free**

TECHNICAL DATA 320 SERIES

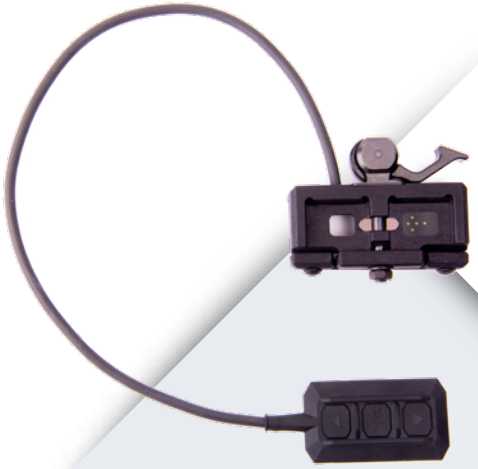
		TC-320-25	TC-320-35
SYSTEM	Use	Hand held, front attachment, weapon sight	
	Sensor	320 x 240, 17 µ, 60 Hz	320 x 240, 17 µ, 60 Hz
	Sensor NETD	< 50 mK	< 50 mK
	Sensor Spectrum	LWIR (8 – 14 µm)	LWIR (8 – 14 µm)
	Objective Lens	25 mm, f/1.2	35 mm, f/1.1
	Field of view	12.4° x 9.3° (d 15.6°)	8.9° x 6.7° (d 11.1°)
	Display Resolution	640 x 480	640 x 480
DIMENSIONS	Length / Height / Width	135 / 59 / 67 mm	135 / 59 / 67 mm
	Weight incl. Battery	< 400 gram	< 400 gram
WORKING RANGES*	Detection	900 m	1300 m
	Recognition	300 m	470 m
	Identification	160 m	230 m
POWER	Battery Run-Time	5.5 h	5.5 h
	External Power Supply	12 – 36 V	12 – 36 V
ENVIRON-MENT	Operating Temp.	-32°C to +63°C	-32°C to +63°C
	Storage Temp.	-40°C to +70°C	-40°C to +70°C
	Immersion	3 m	3 m
	Rifle Shock	750 g	750 g
IMAGING CHARACTE-RISTICS	Focus	manual	manual
	Diopter Adjustment	collimated to scope	collimated to scope
	Magnification	1 x	1 x
	Alignment	< 0.34 mrad	< 0.34 mrad
	Digital Zoom	2 x, 3 x, 4 x	2 x, 3 x, 4 x
	Optical Co-Use	1 x to 2 x	1 x to 3 x
	Display Color	full color, RGB	full color, RGB
	Image Storage	> 1000	> 1000
OTHER	Weapon Mount	customer specific	customer specific

* Range performance simulation with TRM4 v3 according to STANAG 4347 with human sized target

ACCESSORIES

THE WIRED REMOTE CONTROL

The wired remote control is connected to the camera via the mount. Depending on the customer‘s requirements, it can be mounted at various points on the weapon to enable operation of the thermal imaging camera without taking a hand off the weapon.



Various patented quick mounts for one-handed mounting and dismounting of the devices.

MOUNTING SOLUTIONS

For fast and safe mounting of our equipment with high repeat accuracy on weapon systems, we offer various mounting solutions.

SELF-LOCKING MOUNTING

The weapon mounting is always adapted for the best possible integration of the thermal imaging devices to the customer‘s existing weapon systems. Especially in the case of clip-on devices, we believe that this is the only way to ensure optimal functioning of the entire system (including the scope and night vision devices). To ensure fast and safe handling even under difficult operating conditions, we have equipped our mounts with a patented self-locking clamp. This allows the user to mount and dismount the thermal imaging devices safely with only one hand, a decisive advantage especially when mounting clip-on devices. Of course, we can also realize special solutions such as lowered, forward or extended mounts for optimal adaptation to the customer's weapon at any time.

CONTACT US:

VECTED GmbH
Melli-Beese-Straße 24
90768 Fürth, Germany

+49 911 960 687 0
info@vected.de
www.vected.de