

CorDEX



USER MANUAL

TOUGHPIX
DIGITHERM

TOUGHPIX DIGITHERM INTRINSICALLY SAFE DIGITAL IMAGING CAMERA



Congratulations - You are the owner of a TOUGHPIX DIGITHERM CAMERA. A compact pocket sized digital imaging camera capable of capturing true 5 megapixel visual images along with fully radiometric thermal images.

CONTENTS

Overview	4
Package Contents	4
Getting to know your TOUGHPIX DIGITHERM	6-7
Getting Started	8
Taking Pictures	9-11
Thermal Analysis	12
Downloading Files	13
Technical Information	14



DIGITHERM intrinsically safe version as follows

- Ex II 2G / Ex ib op is IIC T4 Gb Ta = -10°C to +40°C



Whilst in a hazardous area, do not attempt to change batteries. This task should only be undertaken after returning to a safe area.



Please ensure that the certification matches or exceeds the hazardous area characteristics that will be clearly displayed on site.

OVERVIEW

Professional features in a pocket sized package. The CorDEX DIGITHERM is a ruggedized, compact, high resolution digital imaging camera capable of capturing true 5 megapixel visual images along with fully radiometric thermal images making this camera your go-to tool for fault finding, documentation whether your work is HVAC, building envelope inspections, electrical repair or facility maintenance.

Rugged, powerful and with ground-breaking affordability, CorDEX DIGITHERM sets the standard with compact digital imaging cameras. With must-have features including; 5 megapixel visual camera, LED flash, realtime visual/thermal image blending, wireless connectivity, CorDEX DIGITHERM brings a new dimension to the task of finding, documenting and sharing problems.



PACKAGE CONTENTS

Check the contents of your TOUGHPIX DIGITHERM, it should include the following items:

- TOUGHPIX DIGITHERM
- Mains Charger
- Battery Charging Dock
- User Manual
- Access Key
- CorDEX 4GB Memory Card
- USB Card Reader
- Wrist Strap
- Global Adapter
- Lithium-ion Battery



REGISTER YOUR PRODUCT.

Visit www.cord-ex.com to register and receive a 12 month extended warranty.

To register your CorDEX product, click 'My Account' on the CorDEX homepage, login to your existing account or register, then enter your CorDEX product serial number and your product will appear with your extended warranty. Terms and conditions apply.

GETTING TO KNOW YOUR TOUGHPIX DIGITHERM



1 LED flash

An advantage for using LEDs is that it is easier to control giving improved images in difficult lighting conditions. With two modes of operation; Wide Area Burst mode and Close-up mode, you have the ability to control the flash to suit your requirements, helping prevent image washout.

3 80x60 thermal sensor

Allowing Infrared vision with its super sensitive 80x60 thermal array as standard.

2 5 Megapixel sensor

Motorised auto focus, capable of resolving both fine close up detail and wide area shots without the need for macro-modes or additional lenses.

4 WiFi enabled

No more messy cables, with the TOUGHPIX DIGITHERM, wirelessly transfer both infrared and visual images efficiently, even in the hazardous area.

5 Removable rechargeable battery

Rechargeable lithium ion battery pack providing a huge four hours runtime plus the ability to switch packs and keep working if you need to (only in a safe area).

6 Ruggedised aluminium body

Manufactured from lightweight but tough, aircraft grade aluminium the TOUGHPIX DIGITHERM is both rugged and tough with one goal in mind, quality that's built to last.

7 2.8" LCD backlit display

Compact enough to fit into any work pocket but rugged enough to take the hits, the TOUGHPIX DIGITHERM still has a screen big enough to view images taken in real time; day or night.

8 Simple joystick navigation

With its simple joystick navigation, the menus are quick and easy to navigate through saving time on the task in hand.

9 Wrist strap point

Not only is the TOUGHPIX DIGITHERM small and compact we have made it really easy to carry with our CorDEX wrist strap, which can be worn on either the right of left hand side of the camera.

GETTING STARTED

Turning the Power On/Off

Use the power button on the top of the camera to turn the camera on and off. The on button is identified on the top of the camera with the on/off symbol located next to the shoot button.

Motorised Optical Focus

Your TOUGHPIX DIGITHERM digital imaging camera is equipped with an automatic focus capability. Failure to properly use this feature will result in blurred images.

To focus an image, point the camera at the target of interest and the camera will automatically focus. Once the camera is focused and the image is clear, press the shoot button and hold whilst the camera takes the shot.

Camera Interface Menus

MENU SELECTION

All camera settings and features are navigated and selected using the joystick:

Short press enters the camera menu

Long press enters the analysis menu

TAKING PICTURES MENU

The camera menu has the following icons:



Visible Imaging



IR Imaging



Image Preview



WiFi



Time and Date



Firmware

ANALYSIS MENU

The analysis menu has the following icons:



SPOT Configuration




GLOBAL IR parameter

TAKING PICTURES

CAMERA MENU Icon Details

VISIBLE Imaging

Controls the VISIBLE imaging and capture modes

- LED:** flash operation options
 DISABLED: LED flash turned OFF.
 ENABLED: LED flash turned ON.
 AUTO: LED flash enabled dependent on ambient light.
-  **FLASH CHARGE STATUS:** the top right of the display shows:
 GREEN indicates fully charged.
 RED indicates charging in progress.
- TIME LAPSE:** Sets time period for delay from shoot-button activation.
 TIME LAPSE PERIOD: single, 30 sec, 1 min, 2 min, 5 min.
 ACTIVATION: Started and stopped by the shoot-button.
 INDICATOR TOP LEFT: When stopped shows current setting (in seconds).
 When running shows the time to next image.
- TL THRESHOLD:** Sets the temperature threshold for the time lapse to start.
 TEMPERATURE: Sets the threshold temperature (-10°C disables).
 ACTIVATION: Started and stopped by the shoot-button.

IR Imaging

Controls the IR imaging and display modes

- IMAGE TYPE:** sets the IR display modes
 HIGHLIGHT: Overlays highest temperatures only for hot spot locating.
 ATB: Overlays Adaptive Thermal Blending areas determined by ATB high and ATB low settings.
 THERMAL ONLY: IR image only is displayed.
 VISIBLE ONLY: VISIBLE image only is displayed.
- COLOURISATION:** configures the IR image colour palette (as displayed on the colour bar for reference). Industry Standard colour palettes are available: Rainbow, Amber, Sepia, Grey positive, Grey negative, Iron, Hot metal.
- ATB HIGH:** Selects the temperature threshold above which the ATB overlay is active.
 ATB HIGH ACTIVATE: Enable or Disable.
 TEMPERATURE: selects the temperature threshold.

TAKING PICTURES

IR Imaging (continued)

- **ATB LOW:** Selects the temperature threshold below which the ATB overlay is active.
ATB LOW ACTIVATE: Enable or Disable.
TEMPERATURE: selects the temperature threshold.
- **UNITS:** Selects the global temperature units.
TEMPERATURE UNITS: Celsius, Fahrenheit, Kelvin.
- **RANGE:** Selects IR temperature range
Low: low range -10°C to 140°C
High: high range -10°C to 380°C

Image PREVIEW

Displays the stored VISIBLE and IR images for review. The joystick is used to navigate the stored images.

- RIGHT and LEFT: moves through the stored images.
- UP and DOWN: selects either VISIBLE or corresponding IR image.
- PUSH: selects full display of the currently displayed image.

TIME and DATE

Used to setup the cameras date and time.

Year: select current year

Month: select current month

Day: select current day

Hour: select current hour (24-hour format)

Minute: select current minute

Second: select current second

Time Zone: select Time Zone offset (hours)

TAKING PICTURES

FIRMWARE and Alignment

Both WIFI and camera system firmware are uploaded from this menu. Displays the current FIRMWARE for the camera. See WIFI for the module firmware revision.

- **UPDATE FIRMWARE:** Camera system firmware update.
Press NOW to update FIRMWARE.
- **UPDATE WIFI:** WIFI firmware update.
Press NOW to update WIFI firmware.
- **ALIGN:** IR and visible image alignment.
Arrows are used to align the IR and visible images.

Separate instructions for FIRMWARE updates will be issued along with the FIRMWARE update file.

Battery Status

Shows current battery charge status as a percentage.

THERMAL ANALYSIS

ANALYSIS MENU Icon Details

☰ THERMAL ANALYSIS MENU

Configures the active temperature measurement SPOTS:

- **SPOTS/BOX:** configures the number of active SPOTS in the display OR BOX display.
Options selectable: 1-SPOT, 2-SPOT, 3-SPOT, BOX.
- **Move SPOT/BOX:** Selects the ACTIVE SPOT or BOX corner to be moved by the joystick in the preview display.
Options selectable:
SPOT mode: 1, 2, 3 selects the active SPOT (displayed in bold in the preview display)
BOX mode: Top-left, Bottom-right, None to select the BOX corner or disable.
- **SPOT1/BOX Emissivity:** Configures emissivity of SPOT1 and also the BOX area.
Options selectable: 0.5 to 1.0 in steps on 0.05.
- **SPOT2 Emissivity:** Configures emissivity of SPOT2.
Options selectable: 0.5 to 1.0 in steps on 0.05.
- **SPOT3 Emissivity:** Configures emissivity of SPOT3.
Options selectable: 0.5 to 1.0 in steps on 0.05.

🌡 GLOBAL IR parameter

Configures the GLOBAL IR parameters used by the IR radiometric analysis. These parameters are shared by all the SPOTS and the BOX area are displayed on the preview display.

- **REFLECTED T:** Configures the GLOBAL reflected temperature.
Options selectable: -10°C to 380°C
- **ATMOSPHERIC T:** Configures the GLOBAL atmospheric temperature.
Options selectable: -10°C to 380°C
- **HUMIDITY:** Configures the GLOBAL humidity.
Options selectable: 0% to 100% in steps of 1%
- **DISTANCE:** Configures the GLOBAL distance of the object from the camera.
Options selectable: 1m to 100m in steps of 1m

DOWNLOADING FILES

There are two options available for downloading images from the TOUGHPIX DIGITHERM removable memory card.

1.1 Removable Memory Card

TOUGHPIX DIGITHERM is supplied complete with a 4GB memory card, only compatible with the TOUGHPIX DIGITHERM.

1. Open* the battery pack door of the camera with the supplied access key
2. Remove* the battery pack from the camera
3. Remove* the memory card from the camera
4. Insert* the memory card in to the memory card reader supplied
5. Remove* the other end of the memory card reader which will reveal a USB dongle, insert this in to your PC/Laptop




*CorDEX memory card and memory card reader

*Only to be done in a safe area

1.2 WIFI access point activation

TOUGHPIX DIGITHERM comes complete with built in WiFi. This enables users to wirelessly download images directly from the camera via a WiFi access point.

To activate the WiFi access point:

1. Short press joystick to access camera menu
2. Navigate to the WiFi symbol  and press NOW to enable.
3. DIGITHERM WiFi access point will now be enabled and your DIGITHERM SSID and IP address will be displayed on screen.
4. Refer to CorDEX for supporting applications.

WiFi download can be performed in Zone 1 and Zone 2 areas with certified equipment.

