# AI-POWERED PERIMETER PROTECTION SOLUTION GROUNDED ON EXPERIENCE

**Data from the video surveillance system**

A UNIQUE COMBINATION OF THERMAL IMAGE PROCESSING ALGORITHMS & DEEP NEURAL NETWORKS

### ThermNet
Complex neural system specialised in enhancing perimeter protection with thermal cameras.

### AutoZone
The analysis smartly adapts its behaviour to the activity in the scene.

### AutoScale
Automatic perspective in the adjustment in the far plane, to differentiate the size of objects.

### WaveCancel
Specially designed to avoid the alarm activations caused by moving vegetation.

DeepWall
ThermAI | ThermAI DUAL

**Lower** false alarm rate

**Higher** intrusion detection rate

**Long** range detection

**DeepWall**ThermAI – AI designed for Thermal Cameras.
A unique combination of technologies brought together to provide real protection for perimeters. Solution specialized on Thermal Spectrum.

**DeepWall**ThermAIDual – AI designed for Thermal Dual Cameras. Better video verification.
All the power of Thermal detection combined with the benefits of visible verification.

## • Unlimited advanced rules to suit any installation

| | | | | |
|---|---|---|---|---|
| Multi Zone | ThermNet | AutoZone | AuroScale | WaveCancel |
| Multi Rule | Loitering | Directionality | Permanence in area | Sabotage & loss of signal |

## • Comparison table

| | DeepWall ThermAI | DeepWall ThermAI DUAL |
|---|---|---|
| Dual video recording (Thermal + visible image) | | ✓ |
| Combined sending to CMS (Thermal + visible image) | | ✓ |
| Median of alarms camera / day (Thermal spectrum) | 0,1 - 0,4 | 0,1 - 0,4 |
| Maximum distance (Thermal spectrum) | 477m (35mm) | 477m (35mm) |
|  | Up to 12 channels | Up to 8 channels |
|  | Up to 24 channels | - |

| Reference | CPT-DWTAI-12 | CPT-DWTAI-8 | CPT-DWTAI-24 |
|---|---|---|---|
| Included channels | 4 ThermAI | 4 ThermAI | 10 ThermAI |
| Max channels DWSD | 12 ThermAI | 8 ThermAI | 24 ThermAI |
| Width (cm)<br>Depth (cm)<br>Height (cm) | 11,7<br>11,2<br>5,1 | 11,7<br>11,2<br>5,1 | 43,6<br>38,2<br>4,3 |
| Processor | Intel | Intel | Intel Xeon |
| RAM (GB) | 250/500 GB | | |
| Weight (kg) | 1,4 | 1,4 | 8 |
| Network | 1x RJ 45 10/100/1000<br>Wifi 802.11a,802.11b/g/n,802.11ac | | 2x RJ 45 10/100/1000 |
| Operating temperature | Recommended from 10 °C to -35 °C | | |
| Optional | Compatible with E/S USB and IP.<br>Compatible with external USB sound card. | | |

## BETTER INTEGRATION

### Open Solutions

Compatibility with almost all cameras and recorders as well as sirens, panels, spotlights, I/O modules. Unlimited action & integration protocols: email, sending to VMC, internal actions, digital outputs, XML, JSON, etc.

### Web Interface

Our applications can be used remotely with no need to install any additional software. Web interface allows simple access to view, configure, share or control your security system.

### Easy Control & Fast Response

The accuracy of detection drastically reduces false alarms, improves the efficiency of operations in the control centre and facilitates a rapid and effective response.

## KEEP YOUR SYSTEM ONE STEP AHEAD OF CYBERATACKS

### VOS Powered by Linux

Vaelsys Operating System (VOS) for complete adaptation to the hardware, maximum performance, security and the lowest consumption.

PRETORIA

Unique protection against cyber attacks due to a dedicated firewall.

HIVE CLOUD

Cloud service allowing to automate & simplify our equipment updates.

HTTPS

Secure and encrypted communications over HTTPs.

## CUTTING-EDGE ENGINEERING. SAVE ENERGY AND SPACE.

intel partner Gold

DeepWall runs across the **Intel®** portfolio to process AI workloads **scalable** to the right customer performance needs. It has been engineered to process **more video streams** per hardware unit. Our unmatched performance **reduces** power consumption and **lowers** hosting and cooling **requirements**. Customers benefit from operational **savings** while we reduce our carbon footprint.

## Recommended maximum distances

- **Thermal cameras** 640x480 Sensor 12µm

| Optical (mm) | Dead angle (m) | Standing person (1,8 m) DeepWall ThermAI | Standing person (1,5 m) DeepWall ThermAI | Crawling person (0,45 m) DeepWall ThermAI | Standing person (1,8 m) DeepWall ThermAI DUAL | Standing person (1,5 m) DeepWall ThermAI DUAL | Crawling person (0,45 m) DeepWall ThermAI DUAL |
|---|---|---|---|---|---|---|---|
| 10 | 4 | 100 | 83 | 27 | 136 | 114 | 38 |
| 13 | 5 | 130 | 108 | 35 | 177 | 148 | 49 |
| 17 | 7 | 170 | 142 | 46 | 232 | 193 | 64 |
| 19 | 7 | Not recommended | | | 259 | 216 | 71 |
| 25 | 10 | Not recommended | | | 341 | 284 | 94 |
| 35 | 14 | Not recommended | | | 477 | 398 | 131 |

- 400x300 Sensor 17µm

| Optical (mm) | Dead angle (m) | Standing person (1,8 m) DeepWall ThermAI | Standing person (1,5 m) DeepWall ThermAI | Crawling person (0,45 m) DeepWall ThermAI | Standing person (1,8 m) DeepWall ThermAI DUAL | Standing person (1,5 m) DeepWall ThermAI DUAL | Crawling person (0,45 m) DeepWall ThermAI DUAL |
|---|---|---|---|---|---|---|---|
| 7 | 4 | 49 | 41 | 13 | 67 | 56 | 19 |
| 10 | 6 | 71 | 59 | 19 | 96 | 80 | 26 |
| 13 | 9 | 92 | 76 | 25 | 125 | 104 | 34 |
| 15 | 11 | 106 | 88 | 28 | 144 | 120 | 40 |
| 19 | 13 | 135 | 112 | 36 | 183 | 152 | 50 |
| 25 | 17 | Not recommended | | | 241 | 201 | 66 |
| 35 | 23 | Not recommended | | | 337 | 281 | 93 |

- 384x288 Sensor 12µm

| Optical (mm) | Dead angle (m) | Standing person (1,8 m) DeepWall ThermAI | Standing person (1,5 m) DeepWall ThermAI | Crawling person (0,45 m) DeepWall ThermAI | Standing person (1,8 m) DeepWall ThermAI DUAL | Standing person (1,5 m) DeepWall ThermAI DUAL | Crawling person (0,45 m) DeepWall ThermAI DUAL |
|---|---|---|---|---|---|---|---|
| 4,4 | 4 | 44 | 37 | 12 | 60 | 50 | 17 |
| 6,5 | 6 | 65 | 54 | 17 | 89 | 74 | 24 |
| 9,7 | 9 | 97 | 81 | 26 | 132 | 110 | 36 |
| 15 | 14 | 150 | 125 | 40 | 205 | 170 | 56 |
| 17 | 14 | 170 | 142 | 46 | 232 | 193 | 64 |
| 25 | 24 | Not recommended | | | 341 | 284 | 94 |
| 35 | 24 | Not recommended | | | 477 | 398 | 131 |

- 384x288 Sensor 17µm

| Optical (mm) | Dead angle (m) | Standing person (1,8 m) DeepWall ThermAI | Standing person (1,5 m) DeepWall ThermAI | Crawling person (0,45 m) DeepWall ThermAI | Standing person (1,8 m) DeepWall ThermAI DUAL | Standing person (1,5 m) DeepWall ThermAI DUAL | Crawling person (0,45 m) DeepWall ThermAI DUAL |
|---|---|---|---|---|---|---|---|
| 7 | 4 | 49 | 49 | 13 | 70 | 56 | 19 |
| 10 | 6 | 71 | 59 | 19 | 100 | 80 | 26 |
| 13 | 9 | 92 | 76 | 25 | 130 | 104 | 34 |
| 15 | 11 | 106 | 88 | 28 | 150 | 120 | 40 |
| 19 | 13 | 135 | 112 | 36 | 190 | 152 | 50 |
| 25 | 17 | Not recommended | | | 250 | 201 | 66 |
| 35 | 24 | Not recommended | | | 350 | 281 | 93 |

## • Dual thermal cameras

DeepWall ThermAI | DeepWall ThermAI DUAL

| Resolution | Pixel size (µm) | Optical (mm) | Dead angle (m) | Standing person (1,8 m) | Standing person (1,5 m) | Standing person (1,8 m) | Standing person (1,5 m) |
|---|---|---|---|---|---|---|---|
| 256x192 | 12 | 3,5 | 4 | 38 | 31 | 48 | 40 |
| 256x192 | 12 | 7 | 9 | 75 | 63 | 95 | 80 |
| 256x192 | 12 | 10 | 11 | 107 | 89 | 136 | 114 |
| | | | | | | | |
| 384x288 | 17 | 15 | 14 | Not recommended | | 144 | 120 |
| | | | | | | | |
| 400x300 | 17 | 13 | 9 | Not recommended | | 125 | 104 |
| 400x300 | 17 | 19 | 13 | Not recommended | | 125 | 152 |
| 400x300 | 17 | 25 | 17 | Not recommended | | 241 | 201 |
| | | | | | | | |
| 640x512 | 12 | 9 | 8 | 96 | 80 | 123 | 102 |
| 640x512 | 12 | 13 | 12 | Not recommended | | 177 | 148 |
| 640x512 | 12 | 19 | 18 | Not recommended | | 259 | 216 |
| 640x512 | 12 | 25 | 24 | Not recommended | | 341 | 284 |

**Distances obtained by correcting theoretical formulas with field tests under the following conditions: camera placed at a height of 3.5m from the ground, with good lighting and a person passing through the farthest area. Minimum detection time of 2 seconds, recommended more than 3 seconds.*

*Person must be greater than 2ºC. Adverse weather conditions, lack of lighting, condition of the sensor or elements of the environment and/or the intruder that elements of the environment and/or of the intruder that obstruct the vision, can significantly reduce the maximum distances.*