

Dynacom DES2050 Series

All-in-one AI Surveillance System

Features

- Rugged and compact full metal casing
- Support 8-28VDC and PoE+ power supply
- All-in-one design with waterproof IP67 rating
- Open x86 system for user's real-time image analysis algorithm
- Support 3.2MP to 8.9MP global shutter CMOS sensors for grabbing
- Support 1080P rolling shutter CMOS for overview recoding
- Solo/dual cameras for grabbing picture and video stream synchronously
- Solo/dual motorized focusing lens for easy installation
- AI supported video analytics
- Wide operation temperature -40°C to +85°C
- 3-year warranty

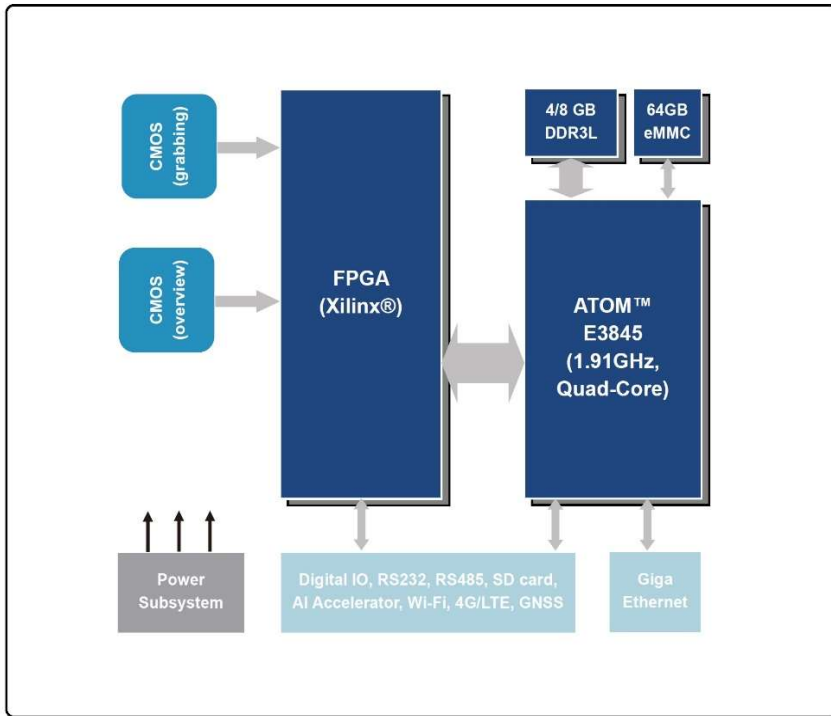
Applications

- Homeland Security
- Border Observation
- Traffic Surveillance
- Speed Enforcement
- Bus Lane Enforcement
- Red Light Enforcement
- Intelligent Video Analysis



Items	Details
CPU Model	Intel® ATOM™ processor E3845, soldered onboard
CPU Type	1.91GHz, Quad Cores, 2MB L2 Cache, 64-bit
DRAM	4GB (default) or 8GB (optional) DDR3L-1333, soldered onboard
Storage	64GB eMMC5.1 Flash for OS, soldered onboard 1x micro-SD card slot for up to 256GB extended storage
Display Port	1x HDMI port for development
Network Port	1x Giga Ethernet port with Intel® I210 controller
USB Port	1x USB2.0 Port for development
Serial Port	1x RS232, 1x non-isolated RS485, 1x dedicated RS232 for debugging
Digital I/O	1x photo-isolated input, 2x photo-isolated outputs
Lens control	User can control the motorized focusing lens via Ethernet even after installation on the pole
LED Strobes	Constant-current LED drivers with sync to cameras LED options: NIR (850nm), white (6000K), far-red (740nm), blue(458nm)
Power Sync	Power sync to AC main supply
Watchdog Timer	1 to 256 second, setup by software
Temperature Monitor	Embedded temperature sensor for mainboard monitor
AI Accelerator(optional)	Embedded Intel® Movidius™ MA2450 AI Accelerator for deep learning algorithm
4G/LTE, GNSS(optional)	Embedded 4G/LTE and GNSS module
Wi-Fi (optional)	Embedded Wi-Fi module with AP mode support
OS support (64-bit)	Windows 10 IoT Enterprise, Ubuntu 16.04
Compatibility	Software is basically compatible with Cheetah1 smart camera
Protocols	ONVIF, GB/T28181, GigE, RTSP
Web Server	Embedded web server for remote access via web browser
Video Streaming	H.264 1080P/30fps color video streaming of the overview camera
Remote Update	Support Wake on LAN (WoL), remote debugging, software update and power on/off via Ethernet
Embedded Lens (two options)	[1] 1" format, 8 MP resolution, fixed F1.4 (non-adjustable), Distortion < -0.5%, IR correction, motorized focusing, focal length options: 12mm, 20mm, 25mm, 35mm [2] 1/1.8", 8 MP resolution, F1.8, IR correction, Distortion < -10%, 11-40mm motorized zooming, focusing and iris control
Consumption	30W Max.
Power Supply	8-28VDC (24VDC recommended) / 5A max or PoE+ (802.3at type2, 25.5W) PD power supply
Operation Temperature	-40°C to +85°C wild temperature
MTBF	350,000 hours
Construction	Rugged full metal casing, fanless, IP67 rating
Dimensions and Weight	180x94x250mm, 3.5 kg

System Diagram



Smart camera is a programmable imaging platform. It integrates image sensor, high-speed CPU, FPGA image pre-processing unit, mass storage and Ethernet interface, etc.

This embedded system satisfies real-time imaging applications which require complex imaging algorithm, modular function and high system reliability. It is possible to use software or algorithms from third-party software providers. Users may also develop their own algorithms such as ANPR.

Camera Selection Guide

Type Number	Cam1 Resolution	Cam2 Resolution	Wi-Fi	4G/LTE	GPS	IR
DES2053LW	3MP	NA	support	support	support	support
DES2055LW	5MP	NA	support	support	support	support
DES2053DLW	3MP	3MP	support	support	support	support
DES2055DLW	5MP	5MP	support	support	support	support
DES2053W	3MP	NA	support	NA	NA	support
DES2055W	5MP	NA	support	NA	NA	support
DES2053DW	3MP	3MP	support	NA	NA	support
DES2055DW	5MP	5MP	support	NA	NA	support

Optional

Optional Functions	Description	Accessories	Description
GNSS module	Embedded GNSS module, includes one antenna	DES-AR050N	A ready 25m cable with an aviation connector
4G/LTE module	Embedded 4G/LTE module, includes one antenna		
8GB DDR3L	Additional 4G DDR3L soldered onboard	DES-AB060N	A large omni-directional bracket
Wi-Fi module	Embedded Wi-Fi module, includes one antenna		
AI Accelerator module	Embedded AI Accelerator module		
Electronic Anti-fog	Embedded electronic anti-fog module		