DATASENSING
easing automation challenges

NEW!

PEKAT VISION Inside

MX-G

VISION PROCESSOR

- Rugged, industrial, GPU-powered vision processor
- Running both PEKAT VISION (deep learning) and IMPACT (rule-based) machine vision software
- Training and inference on the edge, no need of additional PC, Server or Cloud computing
- Compatible with a wide range of cameras from VGA up to very high resolution
- Supporting up to four Power over Ethernet (PoE) camera ports – PoE compliant cameras
- Integrated Profinet and Ethernet/IP industrial fieldbus
- 16 IN + 16 OUT software configurable digital I/Os that can work either PNP or NPN mode

CE UKCA UL

CODE DESCRIPTION

MX-G 2000 - 4 - B - 2

series	**MX-G**	Vision Processor
processor	**2000**	Intel Core i5-12500TE - RTX A4000 GPU
ports	**4**	4 ports
PNP/NPN	**B**	PNP/NPN
O.S.	**2**	Windows 10

TECHNICAL SPECIFICATIONS

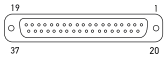
	MX-G2000-4-B-2
GENERAL DATA	
Description	MX-G2000-4-B-2, 4 GIG-E, PNP/NPN, WIN10
CPU	Intel Core i5-12500TE - 6-core
GPU	Nvidia RTX A4000 GPU - 16GB
Storage	512 GB M.2 NVMe SSD
System Memory	32 GB SO-DIMM DDR4 2666 MHz
Operating System	Windows 10 IOT Enterprise 2021 LTSC
Graphics	2x DisplayPort (Full-size, DP 1.4, DP++, HDMI 1.4)
Keyboard / Mouse	6x USB 3.2 Gen 2 Type-A
INPUT/OUTPUT	
I/O	16 IN / 16 OUT opto-isolated PNP or NPN, 200µs response time
COMMUNICATION	
Comm. Connectivity	Supports EtherNet/IP, Profinet, Modbus TCP, OPC and HTTP
Serial Communications	2x RS-232 serial port
Camera Interface	4x 1000 Mbps Base-T, PoE camera ports (Up to 15 W per channel)
Network Interface	2x LAN ports - 2.5 Gbit/s Ethernet
ELECTRICAL DATA	
Supply voltage	12 ... 48 Vdc
Power consumption	100 W (typical, 480W maximum)
MECHANICAL DATA	
Dimensions	267 x 240 x 143 mm (10.5 x 9.45 x 5.60 in.)
Housing material	Aluminum-magnesium alloy housing
Weight	7.5 Kg
TEST/CERTIFICATIONS	
Shocks	k20G peak acceleration (11ms duration) with SSD (IEC60068-2-27 EMC: CE/FCC Class A)
Vibrations	5~500Hz, 1.5Grms@with SSD (IEC60068-2-64)
ENVIRONMENTAL DATA	
Operating Temperature	-40 ... 50 °C (-40...+122 °F)
Mechanical Protection	IP20
Storage temperature max	-40 ... 85 °C (-40...+185 °F)

AVAILABLE MODELS

CPU	System Memory	Storage	Keyboard / Mouse	Operating System	Model
Intel Core i5-12500TE - 6-core	32 GB	512 GB	6x USB 3.2 Gen 2 Type-A	Windows 10 IOT Enterprise 2021 LTSC	**MX-G2000-4-B-2** (959910007)

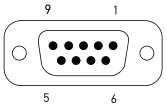
PLUGS

MX-G2000-4-B-2



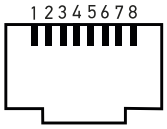
Black	1	Input 1	Red/Black	20	Input 2
Brown	2	Input 3	Orange/Black	21	Input 4
Red	3	Input 5	Yellow/Black	22	Input 6
Orange	4	Input 7	Green/Black	23	Input 8
Yellow	5	Input 9	Gray/Black	24	Input 10
Green	6	Input 11	Pink/Black	25	Input 12
Blue	7	Input 13	Pink/Red	26	Input 14
Purple	8	Input 15	Pink/Blue	27	Input 16
Gray	9	Common pin for IN 1 to IN 16	Pink/Green	28	Isolated ground
White	10	Common pin for OUT 1 to OUT 8	Light Blue	29	Isolated ground
Pink	11	Output 1	Light Blue/Black	30	Output 2
Light green	12	Output 3	Light Blue/Red	31	Output 4
Black/White	13	Output 5	Light Blue/Blue	32	Output 6
Brown/White	14	Output 7	Light Blue/Green	33	Output 8
Red/White	15	Output 9	Gray/Red	34	Output 10
Orange/White	16	Output 11	Gray/Green	35	Output 12
Green/White	17	Output 13	Purple/Black	36	Output 14
Blue/White	18	Output 15	Blue/Black	37	Output 16
Purple/White	19	Common pin for OUT 9 to OUT 16			

MX-G2000-4-B-2



1	No Connection	
2	Received Data (RxD)	
3	Transmitted Data (TxD)	
4	No Connection	
5	Signal Ground (GND)	
6	No Connection	
7	Request To Send (RTS)	
8	Clear To Send (CTS)	
9	No Connection	

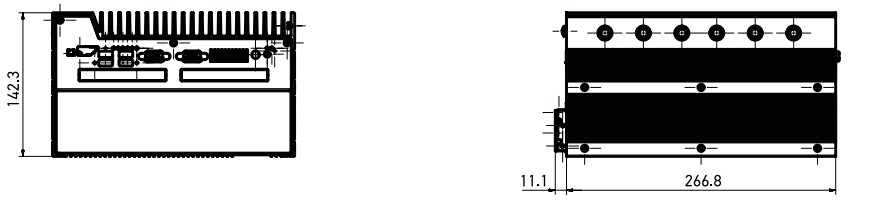
MX-G2000-4-B-2

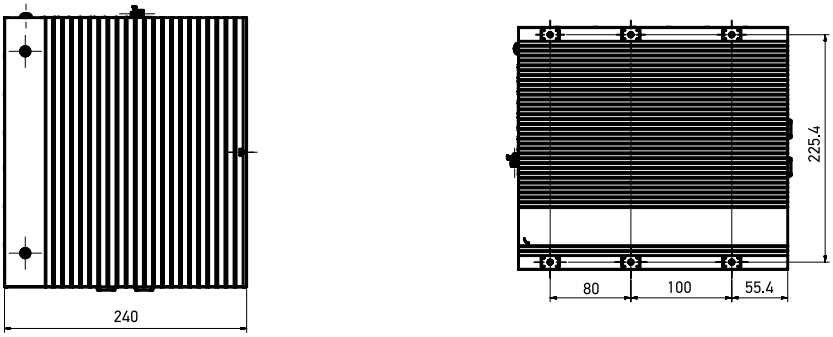


White/ Green	1	BI_DA+
Green	2	BI_DA-
White/ Orange	3	BI_DB+
Blue	4	BI_DC+
White/ Blue	5	BI_DC-
Orange	6	BI_DB-
White/ Brown	7	BI_DD+
Brown	8	BI_DD-

MECHANICAL DRAWINGS

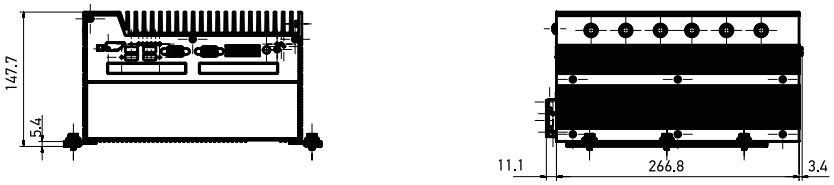
MX-G2000-4-B-2 (Without brackets)

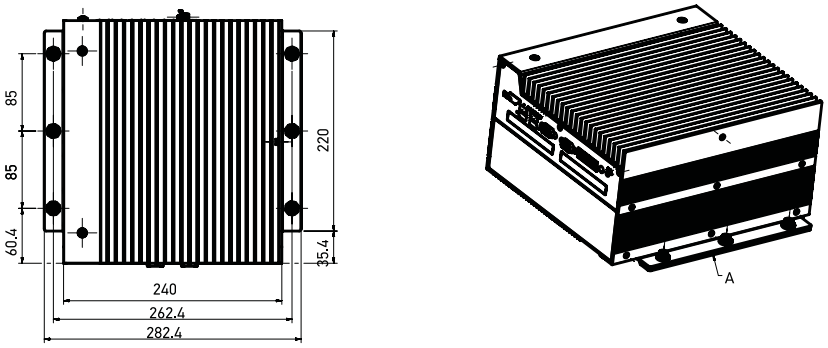




(mm)

MX-G2000-4-B-2 (With brackets)





(mm)

Model	A
MX-G2000-4-B-2	Mounting brackets on the base

ACCESSORIES

AREA SCAN CAMERAS

The MX-G Series supports a series of grayscale and color cameras utilizing the GigE Vision standard. Thanks to their small housing, the cameras allow for easy installation in locations where space is constrained.
The cameras are the ideal solution for fast embedded vision system integration and ensures an outstanding price/performance ratio. High resolution and frame rate guarantee superior image acquisition for tackling most complex machine vision applications.

HIGHLIGHTS

- VGA to 5MP resolution, in both grayscale and color
- CMOS image sensors for high speed performance
- Power over Ethernet (PoE) guarantees minimum wiring and easy installation
- Compact housing (as small as 29 x 29 x 60 mm) enables mounting in space-constrained locations
- High Frame rates to keep up with high speed inspections
- Trigger and strobe I/O provide outstanding integration flexibility

BENEFITS

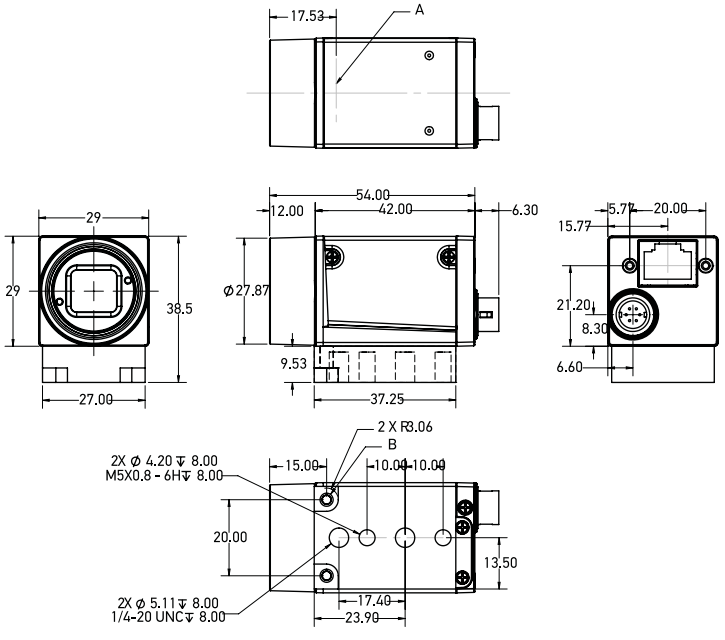
- Reduced size for minimum space requirements
- GigE vision camera interface
- High frame rate for superior image acquisition and processing
- State-of-art grayscale and color image sensors
- C-mount lens support
- IP30 rated housing
- CE, FCC, KCC and RoHS compliant

TECHNICAL DATA

GRAYSCALE MODEL	COLOR MODEL	RESOLUTION	IMAGER	SHUTTER	FRAME RATE (FPS)	PoE
E101	E101C	640 x 480	1/4" CMOS	Global	376	•
E151	E151C	1280 x 1024	1/2" CMOS	Global	88	•
E181	E181C	1920 x 1200	2/3" CMOS	Global	50	•
M197	M197C	2592 x 1944	1/2.5" CMOS	Rolling	14	•
E198	E198C	2448 x 2048	2/3" CMOS	Global	23	•

MECHANICAL DRAWINGS

CAM-M1**



mm

Models	A	B
CAM-M1**	Photosensitive surface of the sensor	2 x ø 3.45 thru all

ACCESSORIES

LINE SCAN CAMERAS

The MX-G Series supports a series of grayscale line scan cameras utilizing the GigE Vision standard. These cameras are for applications that need high resolution and the object is very long or an endless web of material.
The cameras are the ideal solution for printing machines to inspect printed images such as a continuous web or the printing around a cirucular object.

HIGHLIGHTS

- 2K to 8K resolution in grayscale
- High quality images sensors for speed performance
- Compact housing enables mounting in space-constrained locations
- High line rate ensures images capture at rates for high speed applications

BENEFITS

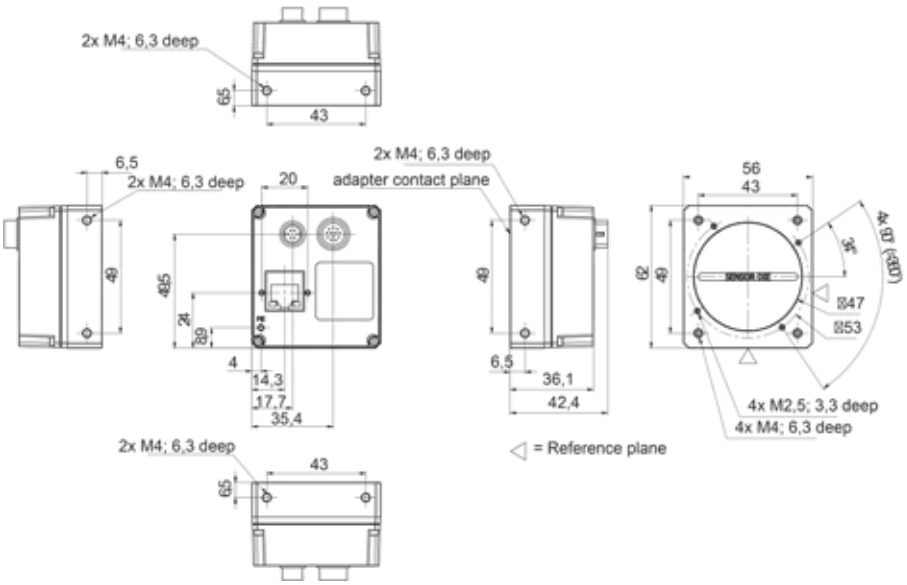
- Reduced size for minimum space requirements
- GigE vision camera interface
- Great for high-speed or high-resolution applications
- Different lens mount options to support applications needs
- IP30 rated housing
- CE, FCC and RoHS compliant

TECHNICAL DATA

MODEL	RESOLUTION	MAX. LINE RATE	PIXEL SIZE	C-MOUNT	F-MOUNT	M42-MOUNT
M565	2048	51 KHz	7 µm x 7 µm	•	•	•
M570	4096	26 KHz	7 µm x 7 µm		•	•
M575	6144	17 KHz	7 µm x 7 µm		•	•
M580	8192	12 KHz	7 µm x 7 µm		•	•

MECHANICAL DRAWINGS

All dimensions in mm



ACCESSORIES

DESCRIPTION	PART NUMBER
Licenses	
LICENSE, Extend Pekat Vision software support to 1 additional camera port	959910008
Dongles	
DONGLE, Enable IMPACT SW on MX-G2000	93ACC0310
GigE Area Scan Cameras	
Camera, E101, Gig-E, 659 x 480, 300 FPS, Grayscale, 1/4" CMOS	959933022
Camera, E101C, Gig-E, 659 x 480, 300 FPS, Color, 1/4" CMOS	959933023
Camera, E151, Gig-E, 1280 x 1024, 75 FPS, Grayscale, 1/2" CMOS	959933024
Camera, E151C, Gig-E, 1280 x 1024, 75 FPS, Color, 1/2" CMOS	959933025
Camera, E181, Gig-E, 1920 x 1200, 48 FPS, Grayscale, 2/3" CMOS	959933026
Camera, E181C, Gig-E, 1920 x 1200, 48 FPS, Color, 2/3" CMOS	959933027
Camera, M197, Gig-E, 2592 x 1944, 14 FPS, Grayscale, 1/2.5" CMOS	959931010
Camera, M197C, Gig-E, 2592x1944, 14 FPS, Color, 1/2.5" CMOS	959931011
Camera, E198, Gig-E, 2448 x 2048, 20 FPS, Grayscale, 2/3" CMOS	959933044
Camera, E198C, Gig-E, 2448 x 2048, 20 FPS, Color, 2/3" CMOS	959933045
GigE Line Scan Cameras	
Camera, M565, Gig-E, 2048 Linescan, 51KHz, Grayscale	959931002
Camera, M570, Gig-E, 4096 Linescan, 26KHz, Grayscale	959931003
Camera, M575, Gig-E, 6144 Linescan, 17KHz, Grayscale	959933020
Camera, M580, Gig-E, 8192 Linescan, 12KHz, Grayscale	959933021

ACCESSORIES

DESCRIPTION	PART NUMBER
I/O Cables, MX Series Processors	
Cable, I/O, MX Series, Processor to Terminal Block, .75 Meter	606-0675-.75
Cable, I/O, MX Series, Processor to Terminal Block, 3 Meter	606-0675-3
Cable, I/O, MX Series, Processor to Terminal Block, 4.5 Meter	606-0675-4.5
Cable, I/O, MX Series, Processor to Terminal Block, 7.5 Meter	606-0675-7.5
I/O Boards, MX Series Processors	
I/O Board, MX-Series Processors, Female DB37, DIN Rail Mountable, no isolation	248-0110
Power and I/O Cables to Terminal Block, M and E Series Cameras	
Cable, Camera I/O, M1xx, E1xx, M5xx, 6 pin, 3 Meter, Camera to Terminal Block	606-0674-03
Cable, Camera I/O, M1xx, E1xx, M5xx, 6 pin, 5 Meter, Camera to Terminal Block	606-0674-05
Cable, Camera I/O, M1xx, E1xx, M5xx, 6 pin, 10 Meter, Camera to Terminal Block	606-0674-10
Cable, M5xx, 12 pin, 3 Meter, Camera to Terminal Block	606-0673-03
Cable, M5xx, 12 pin, 5 Meter, Camera to Terminal Block	606-0673-05
Cable, M5xx, 12 pin, 10 Meter, Camera to Terminal Block	606-0673-10
Power and I/O Cables Unterminated, M and E Series Cameras	
M1xx, E1xx Cameras I/O Cable, 6 pin, 3 Meter, Unterminated	606-0672-03
M1xx, E1xx Cameras I/O Cable, 6 pin, 5 Meter, Unterminated	606-0672-05
M1xx, E1xx Cameras I/O Cable, 6 pin, 10 Meter, Unterminated	606-0672-10
Cable, I/O, M5xx, 12 pin, 3 Meter, Camera to Unterminated	606-0671-03
Cable, I/O, M5xx, 12 pin, 5 Meter, Camera to Unterminated	606-0671-05
Cable, I/O, M5xx, 12 pin, 10 Meter, Camera to Unterminated	606-0671-10
I/O Boards, M and E Series Cameras	
I/O Board, M1xx, E1xx Cameras, w / isolation	661-0399
I/O Board, M5xx Camera, w / isolation	661-0401
Brackets, M and E Series Cameras	
Camera Mount, M1xx, E1xx Cameras	95A903029
Ethernet Cables, M and E Series Cameras	
Cable, Gig-E, CAT6, STP with thumb screws, 3 Meter	606-0677-M1-03
Cable, Gig-E, CAT6, STP with thumb screws, 5 Meter	606-0677-M1-05
Cable, Gig-E, CAT6, STP with thumb screws, 10 Meter	606-0677-M1-10