

The background of the cover is white with decorative wavy lines in a light gray color. These lines are composed of many thin, parallel curves that create a sense of motion and depth, particularly in the lower half of the page.

MEGA40 SYSTEM & PARTS CATALOG

2019

MEGA40

SYSTEM OVERVIEW

MEGA40 is a simple and efficient system to monitor the width of a moving object. It can be installed anywhere in the process where width is critical to production quality.

Points of Inspection & Control:

- Width of sheet(s)
- Edge & Centre position information
- Pinhole detection
- Misaligned joint/edge control
- Number of sheets count



FEATURES

- Specialized controller unit "MEGA40" with pre-set programs for width measurement scenarios
- Touch-panel setup – no PC required
- Digital I/O, Analogue, RS232C, DeviceNet, CC-Link and Ethernet/IP options available for PLC communication
- 2 camera option for monitoring wide webs, to monitor 2 separate webs, or monitoring 2 sections of the same web using 1 controller.

HARDWARE SPECIFICATIONS

Connectable cameras	Up to 2 cameras	Operating temperature	0-40 °C
Input voltage	0 to 5 V or 0 to 2.5 V	Operating humidity	30-90% RH
Camera pixel number	Maximum 8192 pixels	Supply power voltage	AC 85 - 264 V
Frequency	Up to 20 MHz	External dimensions (W x H x D)	264 x 190 x 191
Processing method	Binarization processing	Weight	5 kg

COMMUNICATION

Model	DIO	A/O	PLG Input	CC-Link	DeviceNet	EtherNet/IP
MEGA40	○	○	○	×	×	×
MEGA40C	○	○	○	○	×	×
MEGA40D	○	○	○	×	○	×
MEGA40E	○	○	○	×	×	○

○: Supported x: Not supported

x: It is possible to add a communication card (CC-Link, DeviceNet, EtherNet/IP) to the standard MEGA40 with DIO communication. (Card ordered separately)



MEGA40 (standard)

Image to the left showing the back of the standard version of MEGA40 with DIO connectors.

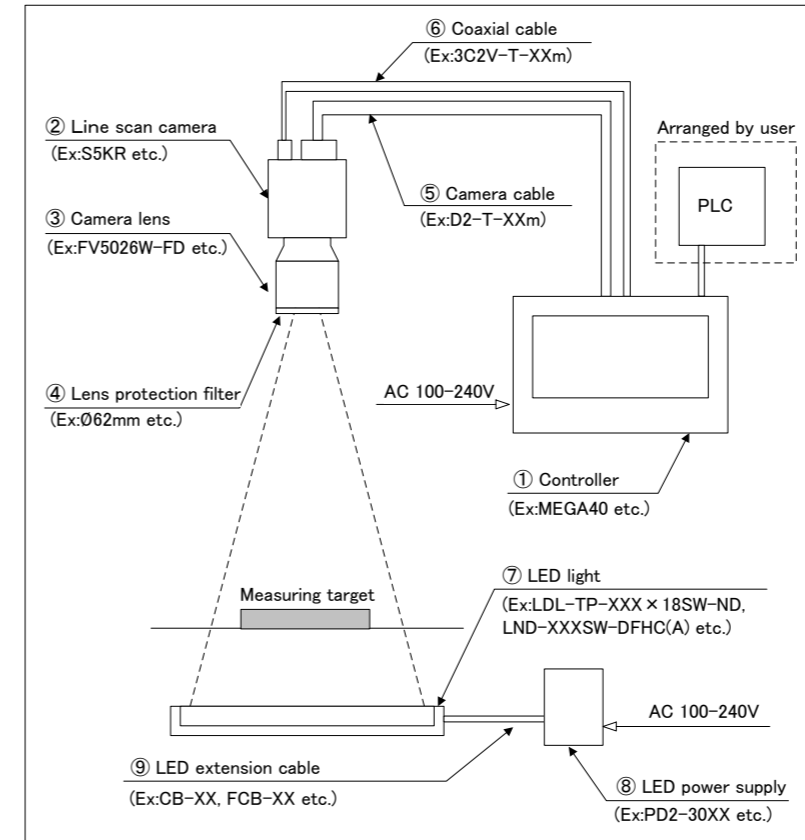


MEGA40C,D,E type

Image showing the back of a MEGA40E with communication card for EtherNet/IP and DIO connections.

SYSTEM OUTLINE

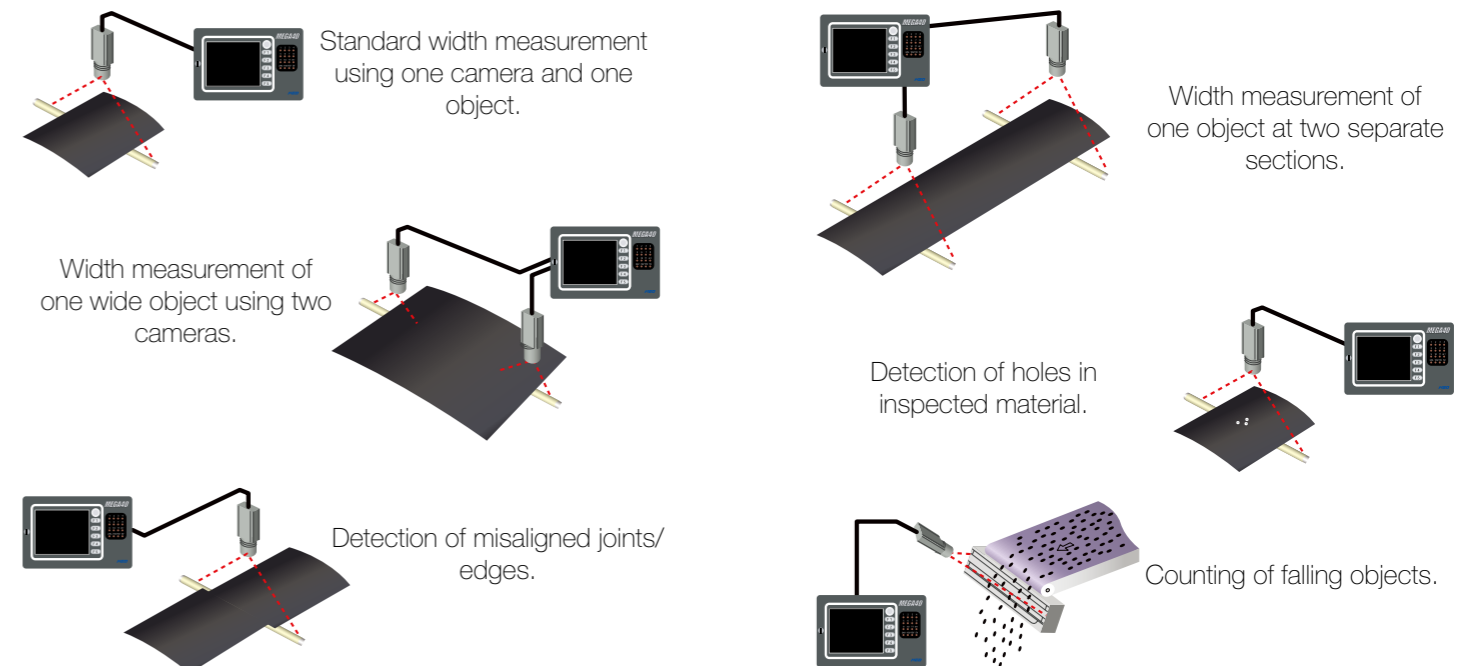
The diagram shows a typical MEGA40 system setup using one camera. Included parts can be found in the table to the right.



No.	Part Description	Part Numbers
1	Controller	MEGA40, MEGA40C, MEGA40D, MEGA40E
2	Line scan camera	S5KR etc.
3	Lens	FV5026W-FD etc.
4	Lens filter	φ XX mm (XX: lens filter size)
5	Camera cable	D2-T-XXXm etc. (XXX: cable length)
6	Coaxial cable	3C-2C-T-XXX etc. (XXX: cable length)
7	LED Light Source	LND-XXXSW-DFHC(A), LDL-TP-XXX×18SW-ND2 etc.
8	LED Power Source	PD2-30XX, PD2-50XX etc. (XX: Power supply voltage [12 or 24])
9	LED Light Source Extension Cable	CB-XX, FCB-XX etc. (optional item if needed)

MEASUREMENT PATTERNS

The MEGA40 has a number of pre-installed measurement patterns that can be selected depending on measurement requirements. Common measurement scenarios are; width, edge & centre position, pinhole detection, misaligned joint control. Up to 2 cameras can be used with 1 controller for monitoring wide webs, monitor 2 separate webs, or monitoring 2 sections of the same web.



MEGA40 PARTS LIST

CONTROLLER

All controllers includes touch panel (part# TS2060i-004-05CE) and power cable*1

Part Number	Communication
MEGA40	DIO
MEGA40C	DIO + CC-Link
MEGA40D	DIO + Device Net
MEGA40E	DIO + EtherNet/IP
Discontinued Controllers	
MEGA20D	



For customers using the previous controller model: MEGA20, MEGA20C, MEGA20D
In many cases it is possible to replace the old controller directly with the current MEGA40 controller. Please consult with your NED representative for controller upgrades.
(In some cases when using special software, specific measures may be required)



CAMERA

Current standard camera is the S5KR model. Cameras are delivered with a mount holder for use with adjustment mount S-type.

Item	Specification
Model	S5KR
Effective pixels	5150 pixels
Pixel size	7 μm x 7 μm
Sensor length	36.05 mm
Operating frequency	1 MHz to 10 MHz
Minimum scan period	550.0 μs (at 10 MHz)
Drive clock Video ratio	1 clock 1 Video
Sensitivity	120 V/x · s
Video signal output	0 to 5V±10% 75Ω termination
Standards compliance	CE, FCC, RoHS
Discontinued Cameras	
S5KCE-FD S5KCE-D SL300 M5000	

For customers wishing to replace a discontinued camera with the current S5KR model.
Please consult with your NED representative for camera upgrades.

LENS FILTER

Item	Specification
Model	φ XX mm (depending on lens size)

CAMERA ADJUSTMENT MOUNT

Item	Specification
Model	S-type
Adjustment angle	±20° (up/down, left/right)
Size	100 x 100 x 100 (mm)
Weight	1100 g

LENS

Current lens supplied with the S5KR camera is lens model FV5026W-FD. The lens include lens filter ø62.

Item	Specification
Model	FV5026W-FD
Focal length	50 mm
Maximum aperture ratio	1:2.6
Working distance	320 mm ~ ∞
Weight	300 g
Maximum image format	φ 45 mm
Mount	FD-mount



LED LIGHTS

Line lighting optimized for imaging with line scan cameras. NED offers two types of LED lights, LDL type (12V) and LND type (24V). Both LED types emits a white light and comes with a 5 metre connector cable as standard.

Select LND type for new system installations as it is designed with extra corrosion protection.
Only select LDL type if your current installation has LDL lights installed, as power supply specification is different from LND type.



*Please consult with your NED representative about LED length and type if necessary.

*Some discontinued LED lights emits a red light. The current white light LED is fully interchangeable and has no negative impact on performance.

Part Number	Effective emission length	Power consumption (W)	Power source	Size		
				W	H	D
LDL-TP-300X18SW-ND2	260mm	6.9	PD2-3012(A)	334	18	27.2
LDL-TP-400X18SW-ND2	360mm	9.1	PD2-3012(A)	434	18	27.2
LDL-TP-600X18SW-ND2	560mm	15	PD2-3012(A)	634	18	27.2
LDL-TP-700X18SW-ND2	660mm	16	PD2-3012(A)	734	18	27.2
LDL-TP-800X18SW-ND2	760mm	20	PD2-3012(A)	834	18	27.2
LDL-TP-900X18SW-ND2	860mm	22	PD2-3012(A)	934	18	27.2
LDL-TP-1000X18SW-ND2	960mm	23	PD2-5012(A)	1034	18	27.2
LDL-TP-1200X18SW-ND2	1160mm	28	PD2-5012(A)	1234	18	27.2
LDL-TP-1300X18SW-ND2	1260mm	30	PD2-5012(A)	1334	18	27.2
LDL-TP-1400X18SW-ND2	1360mm	32	PD2-5012(A)	1434	18	27.2

*LED lights can be produced in 100mm increments.

Part Number	Effective emission length	Power consumption (W)	Power source	Size		
				W	H	D
LND-400SW-DFHC(A)	360mm	9.1	PD2-3024(A)	434	18	27.2
LND-600SW-DFHC(A)	560mm	14	PD2-3024(A)	614	18	27.2
LND-700SW-DFHC(A)	660mm	16	PD2-3024(A)	734	18	27.2
LND-800SW-DFHC(A)	760mm	19	PD2-3024(A)	834	18	27.2
LND-900SW-DFHC(A)	860mm	21	PD2-3024(A)	934	18	27.2
LND-1000SW-DFHC(A)	960mm	23	PD2-5024(A)	1034	18	27.2
LND-1200SW-DFHC(A)	1160mm	28	PD2-5024(A)	1234	18	27.2
LND-1300SW-DFHC(A)	1260mm	30	PD2-5024(A)	1334	18	27.2

*LED lights can be produced in 100mm increments.

LED LIGHT POWER SUPPLY

Part Number	Output power supply	Output power	Input voltage
PD2-3012(A)	12V	28W	100 to 240V
PD2-5012(A)	12V	46W	100 to 240V
PD2-3024(A)	24V	28W	100 to 240V
PD2-5024(A)	24V	46W	100 to 240V



The LED power supply control units can set the light intensity to 256 levels using 16 coarse steps and 16 fine tuning steps.

Supplied with power cable*1

LED LIGHT COVERS

LED light acrylic protection covers to protect from dirt, dust, dripping etc.

Part number	Remarks
400mm use	Compatible with 400mm LED
600mm use	Compatible with 600mm LED
700mm use	Compatible with 700mm LED
800mm use	Compatible with 800mm LED
900mm use	Compatible with 900mm LED
1200mm use	Compatible with 1200mm LED
1300mm use	Compatible with 1300mm LED

LED EXTENSION CABLE

LED lights come with a 5 metre connector cable as standard. LDL type LED 1000mm and above require two (2) extension cables.

Part number	Length	Remark
CB-5	5m	For use with 12V LED
CB-10-1.25sq-SH	10m	For use with 12V LED
CB-15-1.25sq-SH	15m	For use with 12V LED
FCB-5	5m	For use with 24V LED
FCB-10-1.25sq-SH	10m	For use with 24V LED
FCB-15-1.25sq-SH	15m	For use with 24V LED

*1 Power plug type A with ground prong

CABLES

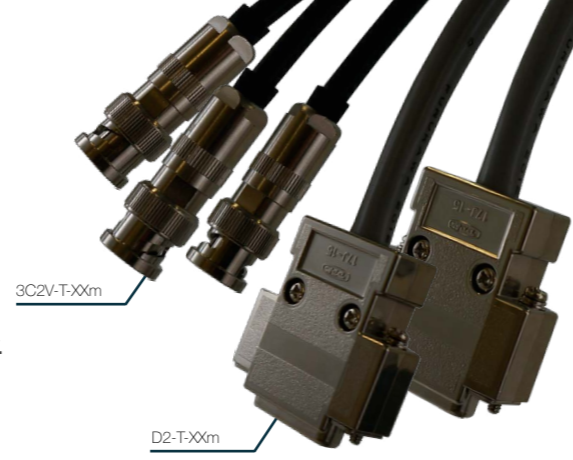
Each camera uses two cables, one “D2” type camera cable and one “3C2V” type coaxial cable. (A custom “D2” type cable is used together with the 320-type protection case)

“D2” type camera cable: Supplies start signal, enable signal and power supply from the controller to the camera.

“3C2V” type coaxial cable: Sends the video signal from the camera to the controller.

*Please consult with your NED representative about cable length if necessary.

*For CE compliant cables, a ferrite core is used.



Part number	Connector		Cable color	Length (m)
	Camera side	Controller side		
D2-T-5m	D-sub 15P	D-sub 15P	Grey	5
D2-T-10m	D-sub 15P	D-sub 15P	Grey	10
D2-T-15m	D-sub 15P	D-sub 15P	Grey	15
D2-T-20m	D-sub 15P	D-sub 15P	Grey	20
D2-T-25m	D-sub 15P	D-sub 15P	Grey	25
D2-T-30m	D-sub 15P	D-sub 15P	Grey	30
D2-T-35m	D-sub 15P	D-sub 15P	Grey	35
D2-T-40m	D-sub 15P	D-sub 15P	Grey	40
D2-T-45m	D-sub 15P	D-sub 15P	Grey	45
D2-T-50m	D-sub 15P	D-sub 15P	Grey	50
D2-T-60m	D-sub 15P	D-sub 15P	Grey	60
D2-T-100m	D-sub 15P	D-sub 15P	Grey	100

Part number	Connector		Cable color	Length (m)
	Camera side	Controller side		
D2-T-5m-S	MS3106B20-29S	D-sub 15P	Grey	5
D2-T-10m-S	MS3106B20-29S	D-sub 15P	Grey	10
D2-T-15m-S	MS3106B20-29S	D-sub 15P	Grey	15
D2-T-20m-S	MS3106B20-29S	D-sub 15P	Grey	20
D2-T-25m-S	MS3106B20-29S	D-sub 15P	Grey	25
D2-T-30m-S	MS3106B20-29S	D-sub 15P	Grey	30
D2-T-35m-S	MS3106B20-29S	D-sub 15P	Grey	35
D2-T-40m-S	MS3106B20-29S	D-sub 15P	Grey	40
D2-T-45m-S	MS3106B20-29S	D-sub 15P	Grey	45
D2-T-50m-S	MS3106B20-29S	D-sub 15P	Grey	50
D2-T-60m-S	MS3106B20-29S	D-sub 15P	Grey	60
D2-T-100m-S	MS3106B20-29S	D-sub 15P	Grey	100

Camera Cables	Connector		Cable color	Length (m)
	Camera side	Controller side		
3C2V-T-5m	BNC	BNC	Black	5
3C2V-T-10m	BNC	BNC	Black	10
3C2V-T-15m	BNC	BNC	Black	15
3C2V-T-20m	BNC	BNC	Black	20
3C2V-T-25m	BNC	BNC	Black	25
3C2V-T-30m	BNC	BNC	Black	30
3C2V-T-35m	BNC	BNC	Black	35
3C2V-T-40m	BNC	BNC	Black	40
3C2V-T-45m	BNC	BNC	Black	45
3C2V-T-50m	BNC	BNC	Black	50
3C2V-T-60m	BNC	BNC	Black	60
3C2V-T-100m	BNC	BNC	Black	100

CAMERA CABLES

CABLE COMPATIBLE WITH 320-TYPE

COAXIAL CABLES

*The above standard coaxial cables are used even for 320-type protection case (optional item).

CAMERA PROTECTION CASING

Item	Specification
Model	320-type
Color	Metallic grey
Size	371×160×160 (mm) ^{*)}
Weight	5500 g

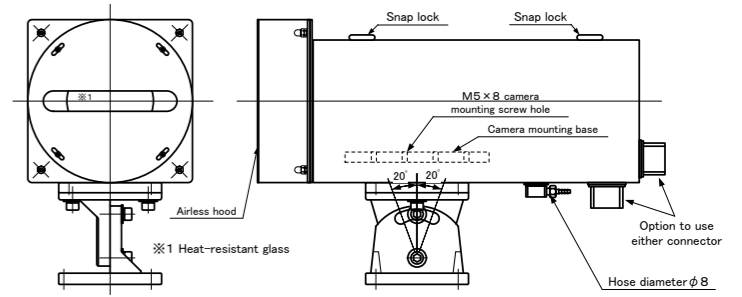
^{*)} Longest length of each side

*S-type adjustment base is not included (sold separately)

*Air supply hose diameter is ø8.

*A dedicated camera cable is required for camera connection.

The protection casing is used in areas where corrosive gases may be present and may cause harm to the camera. Air (arranged by user) is pumped in to the casing to prevent camera breakage and to prolong product life.



MEASUREMENT CALIBRATION PLATES

Part Number	Size (mm)	Color	Weight (g)
KB20010-100-2	100×200×40 ^{*)}	Black alumite	600
KB20010-200-2	200×200×40 ^{*)}	Black alumite	1300
KB20010-400-2	400×200×40 ^{*)}	Black alumite	3000

^{*)} Handle height

The MEGA40 controller should be calibrated for accuracy with regular maintenance intervals. The measurement calibration plates with specific widths offers an accurate and easy way to calibrate the system. Other widths available on request.



CONTROLLER REPLACEMENT PARTS

Part Number	Remarks
TS2060i-004-05CE	LCD Touch Panel for MEGA40 (0.5m cable)
TS2060i-004-5CE	LCD Touch Panel for MEGA40 (5m cable)
COM-CA-CCS	CC-Link replacement card
COM-CA-DNS	DeviceNet replacement card
COM-CA-EIS	EtherNet/IP replacement card

NOTES



DISTRIBUTORS

ASIA PACIFIC

Korea Darea Vision Co., Ltd. (www.dareavision.co.kr)
Jugi Corporation (www.jugicorp.com)

EUROPE

Hungary MAVKER (www.mavker.hu)

Poland PDC Process Diagnostic & Control (www.pdc-automatyka.pl)

Turkey Entek Otomasyon (www.entek.com.tr)



NIPPON ELECTRO-SENSORY DEVICES CORP.

Tokyo Sales Office (EMEA/USA Sales)
Gibraltar Ohi Bldg. 402
1-45-2 Ohi, Shinagawa,
Tokyo 140-0014
JAPAN
TEL: +81-3-5718-3181 FAX: +81-3-5718-0331

Osaka Head Office (Asia-Pacific Sales)
Itachibori 2-5-12, Nishi-ku
Osaka 550-0012
JAPAN
TEL: +81-6-6534-5300 FAX: +81-6-6534-6080

www.ned-sensor.co.jp/en
sales@ned-sensor.com

OFFICIAL DISTRIBUTOR



Jan, 2019 | Printed in Japan