

# Coaxial Lights

## MFU series

Refer to our website for product details.




You can also use your smartphone or cell phone.

For quick access.

Provides light with high parallelism using original lighting technology



MFU-34X30-BL



MFU-54X40-BL

**Applications** Dimension measuring, dimension measuring of cylindrical objects, inspection for fine burrs, etc.

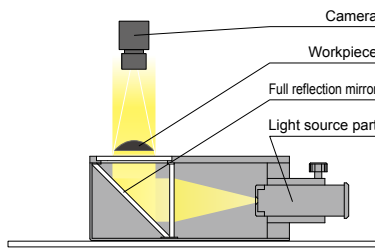
### Features

We achieved collimated lighting through unique lighting technology. It allows for highly-accurate imaging that prevents light from wrapping around the workpiece. It allows for convergence to match the imaging-side lens in use.

We accept custom orders. Please feel free to inquire.

- Shape modifications
- Brightness increases
- Changes in wavelength, etc.

#### Example configuration (MFU-34×30)



#### Imaging example: Exterior imaging of a screw



Workpiece: Knurled screw

#### LED Flat Light



With a Flat Light, the illuminated light wraps around the workpieces, making it difficult to emphasize the edges.

#### MFU-34X30-BL



It prevents the illuminated light from wrapping around, allowing for the edges to be emphasized.

### Comparison of imaging with a Flat Light and Collimated Light

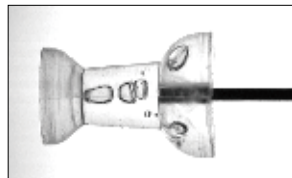
#### Imaging example: Exterior imaging of a push pin

##### Workpiece image

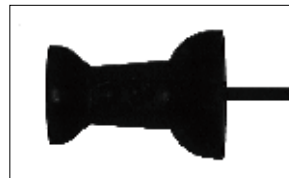


Push pin

##### LED Flat Light



##### MFU-34X30-BL



When the user looks at a clear resin push pin with diffused light from a Flat Light illuminated from the rear, the clear part appears clear. However, with collimated light, the light is refracted by the clear resin, and the whole pin appears black.

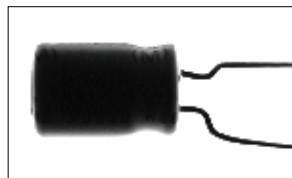
#### Imaging example: Imaging the exterior and dimensions of a capacitor

##### Workpiece image

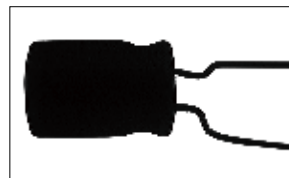


Capacitor

##### LED Flat Light



##### MFU-34X30-BL



If you view it with diffused light of Flat Light illuminated from the rear, the light wraps around the side of the capacitor body. However, with collimated light, that wrap around is prevented and the thickness of the wires is also imaged evenly.

LDR2	
LDR2-LA	Direct Lighting
LDR-LA1	
SQR	
SQR-TP	
HPR2	
LFR	Diffused Lighting
LKR	
FPR	
FPQ2	
LDL2	
LDLB	Direct Lighting
HLDL2	
HL	
TH2 (5 types)	
TH	
LFL	
HPD2	
LDM2	Diffused Lighting
LAV	
PDM	
LFX3	
LFX3-PT	
LFX2	
LFV3	
MSU	Collimated Lighting
MFU	
PF	Stroke Lighting
HDR-IP/ IQ/HSL-PCL	Water-proof
UV2	Ultraviolet Lighting
UV	
LNSP-UV-FN	
IR2	Infrared Lighting
IU	Intensity Control
HLV2	
LV	
LSP	Spot Lighting, Etc.
HFS/HFR	
HLV2-NR	
HLV2-3M-RGB-3W	
PFB2	
PFB2	
LNLP	
LNLP2	Convergent Lighting
LNLP	
Coaxial Units	
LNLP-FN	
LN/LN-HK	
LNLD	Diffused Lighting
LND2	
HLND	
LT	
LNV/HLND	
LNDG	
LNIS2	Oblique-Axis Lighting
LNIS	
LNIS-FN	
Telecentric Lens	Lenses
Macro Lens	

Various technical documents available.

- PDF Drawings
- DXF Drawings
- 3D CAD
- Instruction Guides
- Product Filters
- Imaging Samples
- Data Sheets
- Examples of Custom Ordered Products

Download here. <http://www.ccs-grp.com/dl/>

## Lineup

Model name	LED color	Power consumption	Peak wavelength	Options	Extension cables	Recommended Control Units	Weight
MFU-34X30-BL	Blue	12 V / 0.3 W	470 nm	-	CB Straight Cable CB-W 2-branch Cable CB-F 4-branch Cable RCB Robot Cable	PD2* PSB* PTU2*	185 g
MFU-54X40-BL	Blue	12 V / 0.3 W	470 nm		350 g		

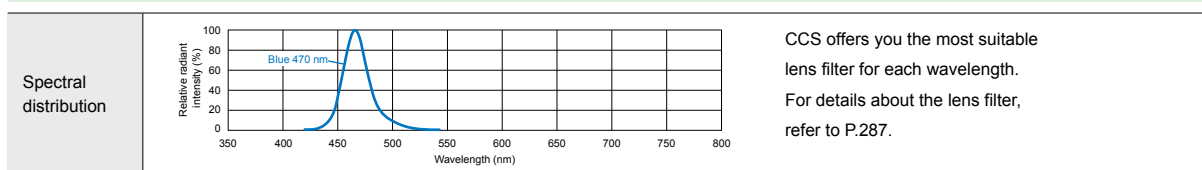
\* Because the MFU series is for 12 V input, please select a Control Unit with a 12 V output.

Extension Cables ▶ P.296

Control Unit Selection Guide ▶ P.243

List of Control Unit Specifications ▶ P.245

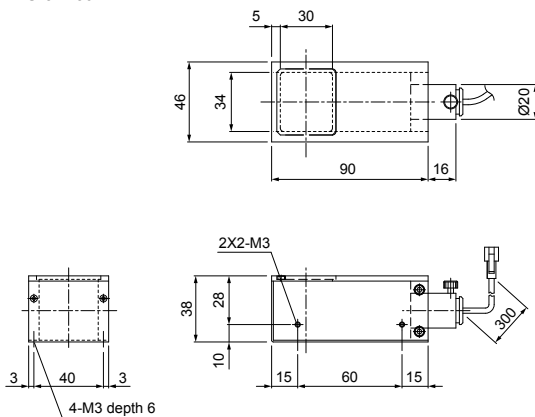
## LED properties



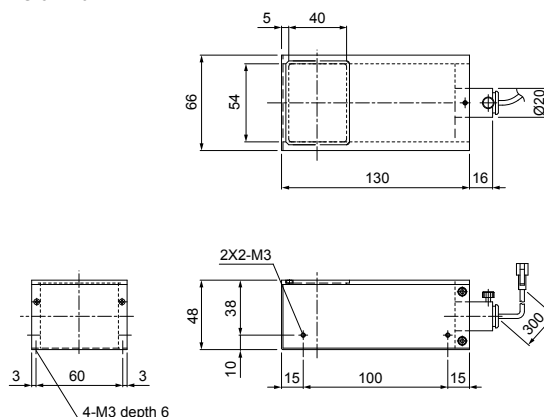
Be sure to read the "Instruction Guide" included with the product before use and follow the safety precautions upon use. The data included is for reference only. Actual values may vary.

## Dimensions (mm)

MFU-34X30-BL



MFU-54X40-BL



## Regarding the procedure for usage

- 1) Set the item to be inspected and determine the imaging range.
- 2) Set this product and determine the distance between the lens and the camera (LWD).
- 3) Align this product's light axis with the center of the imaging field of vision.
- 4) Adjust intensity.

For details about the procedure for usage, refer to the material "How to Use the MFU Series" on our website.

You can download this information from the product website page.

Direct Lighting	LDR2
	LDR2-LA
	LDR-LA1
	SQR
	SQR-TP
Diffused Lighting	HPR2
	LFR
	LKR
	FFR
	FPQ2
Direct Lighting	LDL2
	LDLB
	HLDL2
	HL
	TH2 (5 types)
	TH
	LFL
Diffused Lighting	HPD2
	LAV
	LDM2
	PDM
	LFX3
	LFX3-PT
	LFX2
	LFV3
Collimated Lighting	MSU
	MFU
Strobe Lighting	PF
Water-proof	HLDR-IP/
	IQ/HSL-PCL
Ultraviolet Lighting	UV2
	UV
	LNSP-UV-FN
Infrared Lighting	IR2
Intensely Control	IU
Spot Lighting, Etc.	HLV2
	LV
	LSP
	HFS/HFR
	HLV2-NR
	HLV2-3M-RGB-3W
	PFBR
	PFB2
Convergent Lighting	LNLP
	LNSP2
	LNSP
	Coaxial Units
	LNSP-FN
	LN/LN-HK
Diffused Lighting	LNSD
	LND2
	HLND
	LT
	LVN/HLDN
Oblique Angled Lighting	LVNDG
	LVNIS2
	LVNIS
	LVNIS-FN
Lenses	Telecentric Lens
	Macro Lens