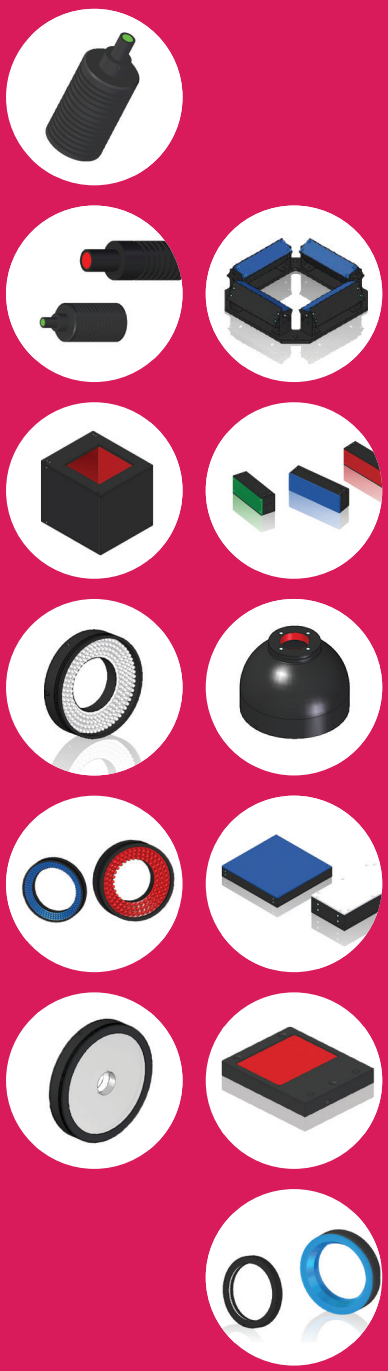
MV
Machine Vision

LED illumination



Power Source

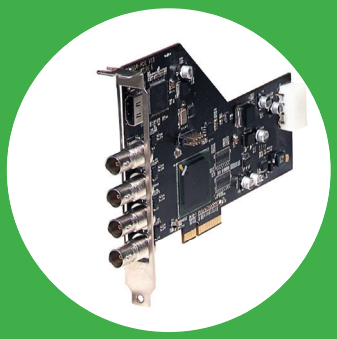
MV
Machine Vision

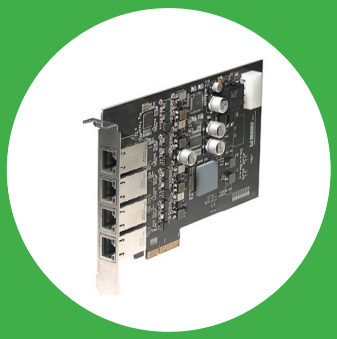
MV
Machine Vision

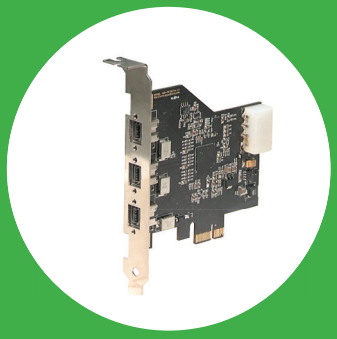
Machine Vision Cable

Interface Board

MV
Machine Vision





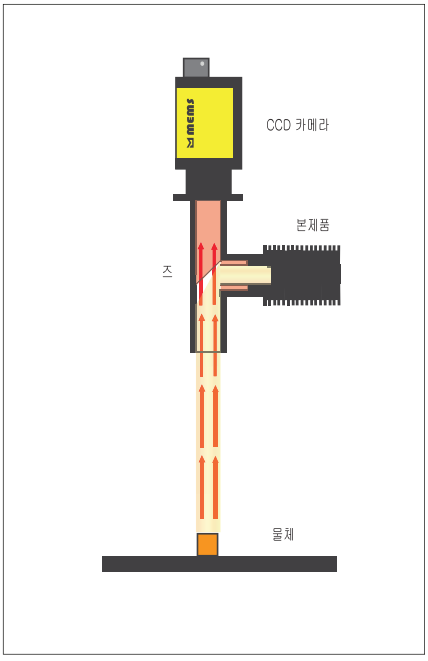


HPSI Series

High Power
Spot illumination

High-Powered Spotlight Illuminator with improved brightness and uniformity

Features



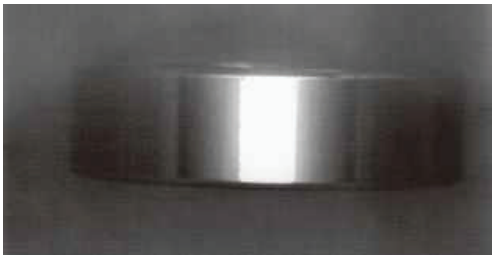
밝기와 균일도를 향상시킨 고출력 스폿조명

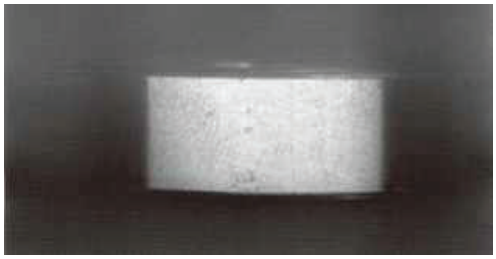
- 경량, 콤팩트 설계, 낮은 소비전력으로 긴 수명을 유지할 수 있으며, 할로겐 광원을 대치할 수 있는 조명 입니다.
- 협소한 공간에 고휘도 요구 시 적합한 조명 입니다.
- 집광렌즈가 장착된 스폿조명으로 특정 부위를 집중하여 빛을 조사할 수 있으며 설치가 자유로워 여러가지 형태로 응용이 가능한 조명 입니다.

물체의 분광 특성에 따라 조사광을 선택, 높은 명도로 촬상이 가능

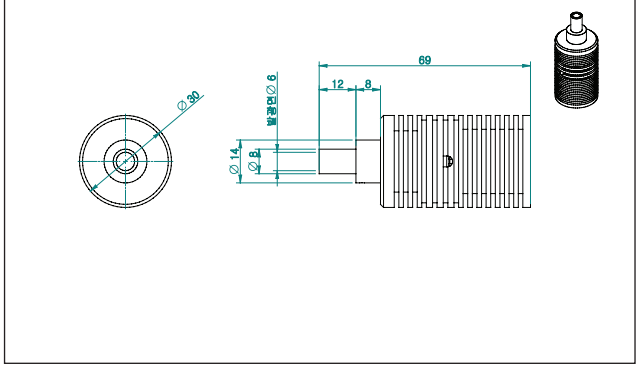
- 물체의 분광 특성에 따라 용도에 맞게 적/녹/백/청의 발광색을 선택할 수 있습니다. LED는 단색광에 가까우므로 색차의 영향을 받지 않고 깨끗한 화상을 취득할 수 있습니다.

Sample





Model Name	MLI-HPSI-308							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	5
Power Consumption(W)	5								



IR : infrared (850nm/940nm)

RD : Red (660~700nm)

SW : Soft White (2,700K)

NW : Natural White (4,000~4,500K)

GR : Green (510nm)

BL : Blue (430~440nm)

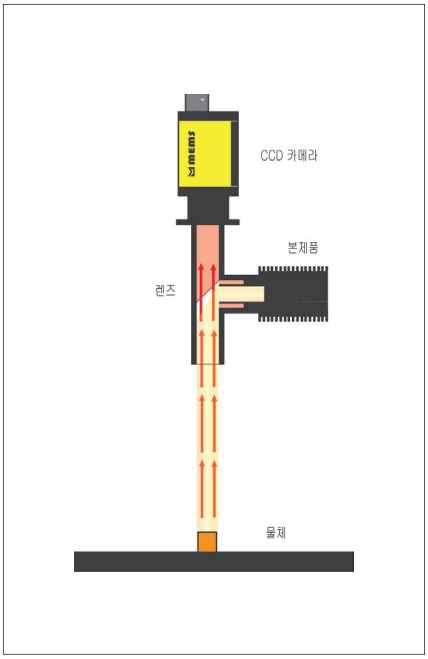
UV : ultraviolet (365nm/380nm)

CI Series

Coaxial
illumination

밝기와 균일도를 향상시킨 고출력 스폿조명

Features



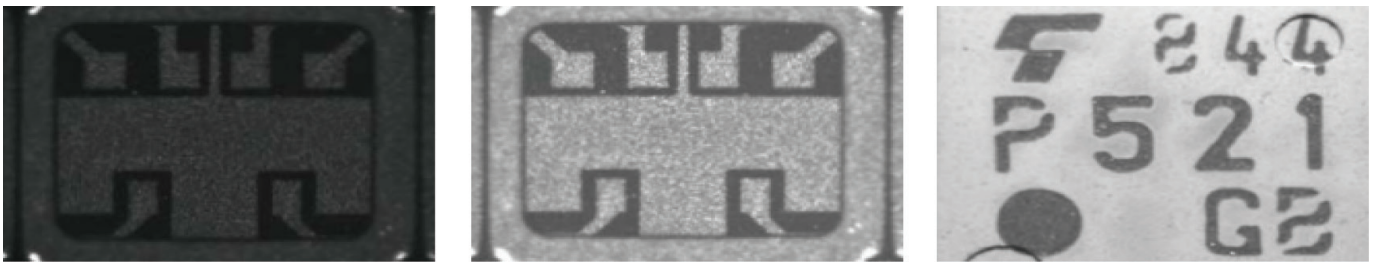
밝기와 균일도를 향상시킨 고출력 스폿조명

- 경량, 콤팩트 설계, 낮은 소비전력으로 긴 수명을 유지 할 수 있고 할로겐 광원을 대치할 수 있는 조명 입니다.
- POWER LED를 적용하여 고배율 이미지 획득에 최적화된 조명 입니다.
- 설치가 자유롭기 때문에 여러가지 형태로 응용이 가능한 조명 입니다.

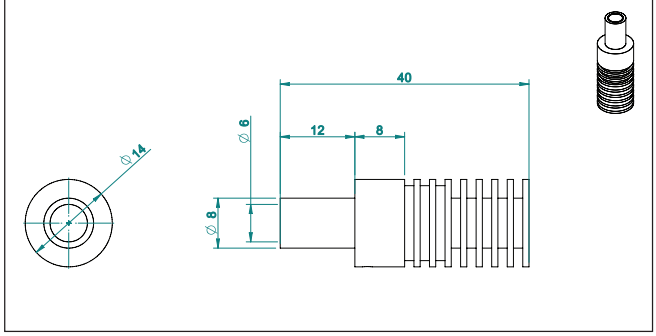
물체의 분광 특성에 따라 조사광을 선택, 높은 명도로 촬상이 가능

- 물체의 분광 특성에 따라 이용하고 싶은대로 다양한 밝기와 색상의 조명을 선택할 수 있습니다.
- LED는 단색광에 가까우므로 색차의 영향을 받지 않고 특정부위를 집중하여 빛을 조사할 수 있으며, 깨끗한 화상을 취득할 수 있습니다.

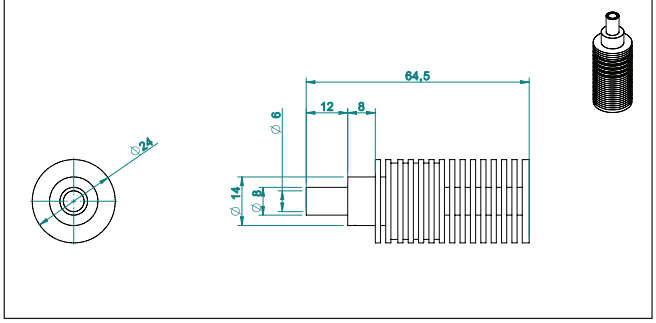
Sample



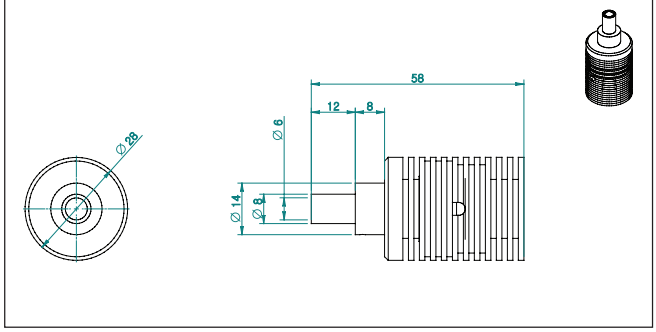
Model Name	MLI-CI-148							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	1
Power Consumption(W)	1	1	1						



Model Name	MLI-CI-248							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	1
Power Consumption(W)	3	3	3						



Model Name	MLI-CI-288							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	1
Power Consumption(W)	3	3	3						

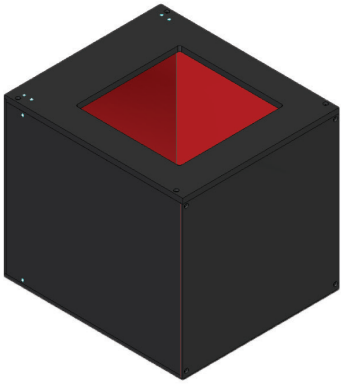


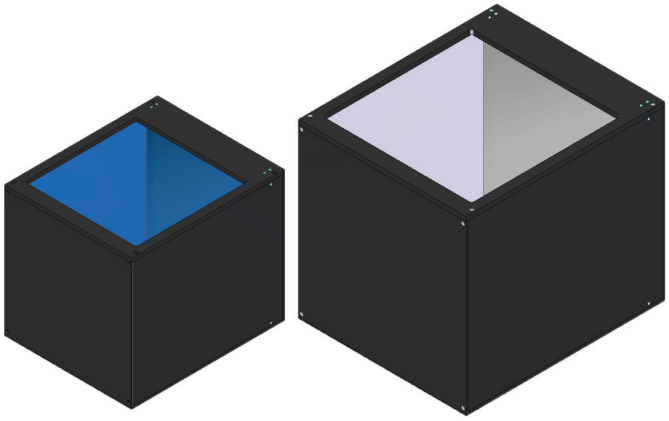
IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

SCI Series

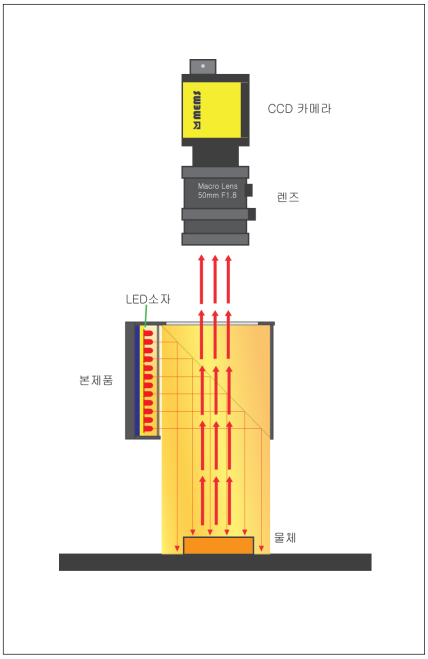
Simulated Coaxial illumination

경면 물체를 고르고 균일하게 조사





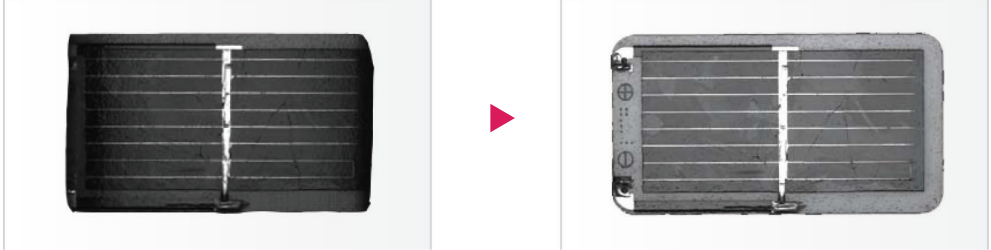
Features



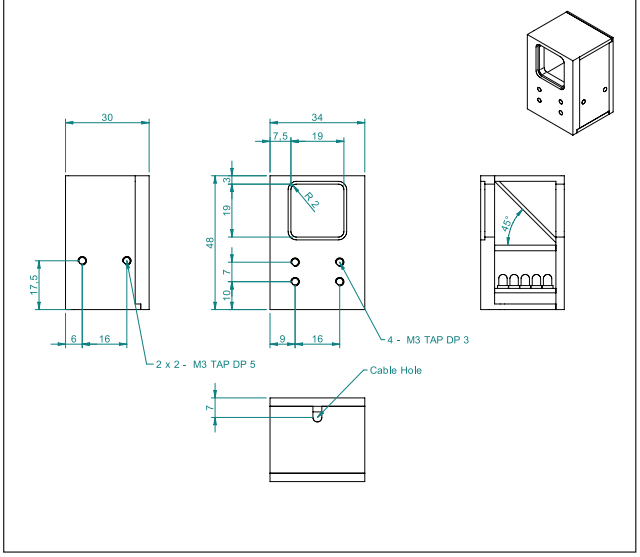
- 면상에 배열된 LED의 빛은 확산판을 통해 균일하게 조사되어 Wafer 등 반사율이 좋은 제품의 검사에 적합 합니다.
- 반사방지 코팅 가공된 특수 하프 미러를 사용하여 화상의 잔상이 보이지 않게 됩니다.
- 상부 개구부를 보호 글라스로 보호하고 있으므로 먼지 등 이물의 유입을 방지할 수 있습니다.
- 렌즈의 필터용 나사부에 조명을 직접 부착하는 것이 가능하며 설치장소가 좁은곳에도 최적으로 사용할 수 있는 조명 입니다.

- 옵션 : 보호 글라스 장착이 가능 합니다.

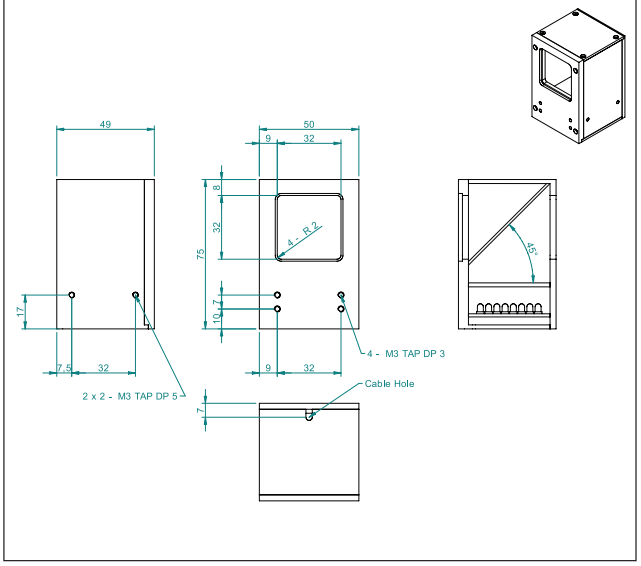
Sample



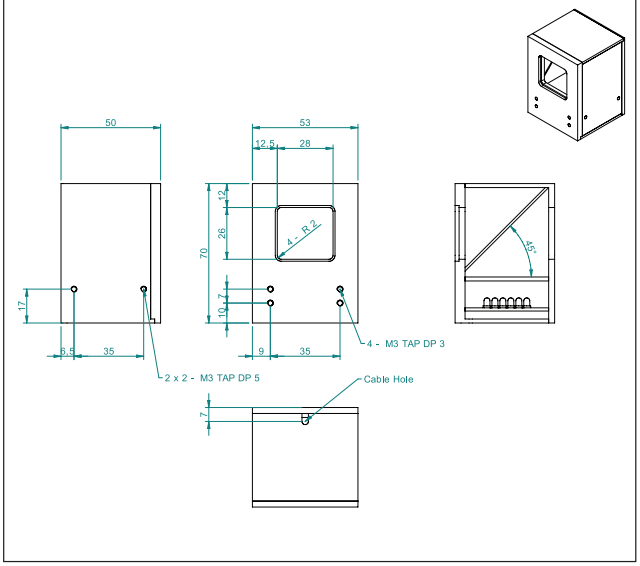
Model Name	MLI-SCI-3448							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	20
Power Consumption(W)	6.4	0.6	1.2						



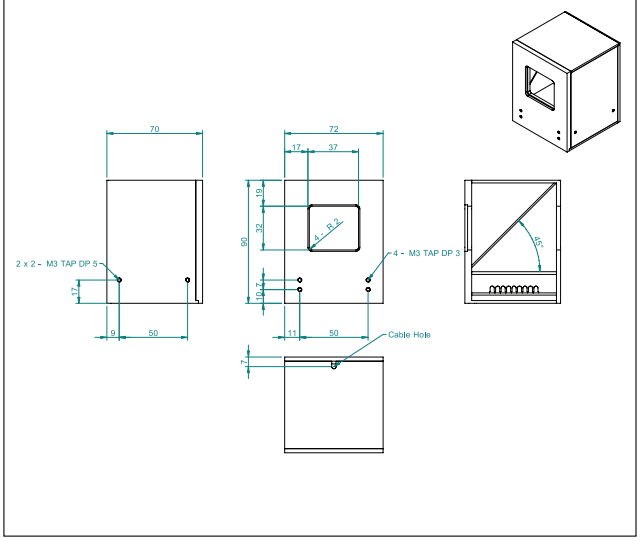
Model Name	MLI-SCI-5075							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	64
Power Consumption(W)	20.5	1.9	3.8						



Model Name	MLI-SCI-5370							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	36
Power Consumption(W)	1.5	1.1	2.2						

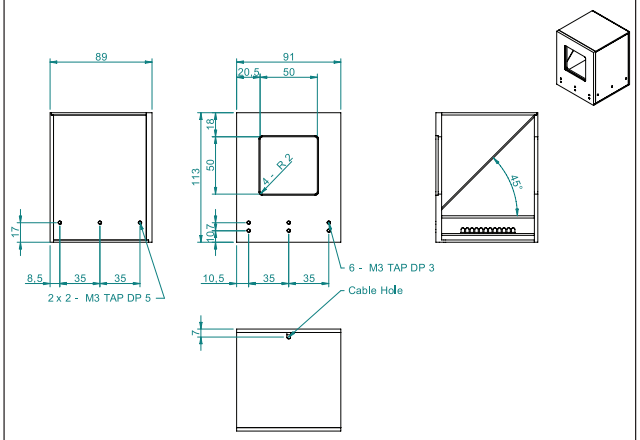


Model Name	MLI-SCI-7290							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	90
Power Consumption(W)	25.9	2.4	4.9						

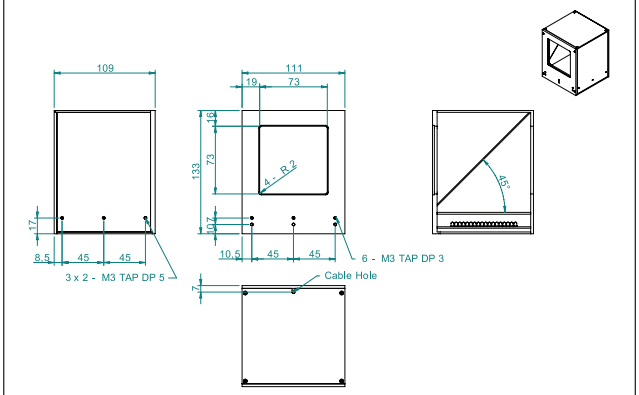


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

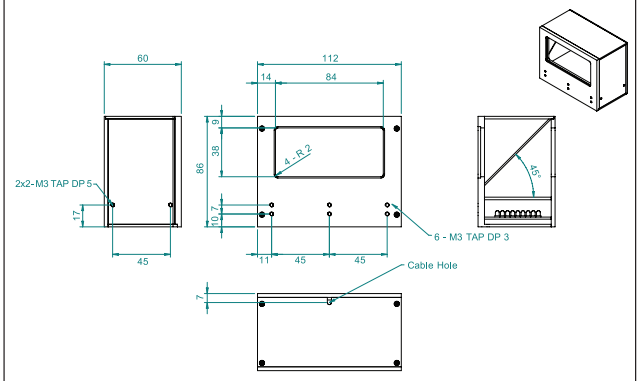
Model Name	MLI-SCI-91113							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	144
Power Consumption(W)	46.1	4.3	8.6						



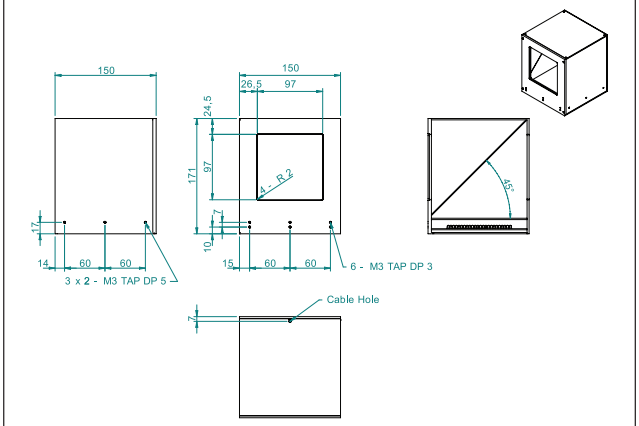
Model Name	MLI-SCI-111133							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	324
Power Consumption(W)	103.7	9.7	19.4						



Model Name	MLI-SCI-11286							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	180
Power Consumption(W)	84.5	7.9	15.8						

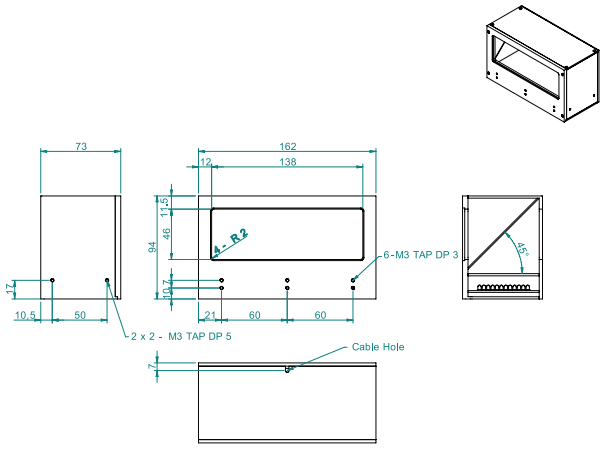


Model Name	MLI-SCI-150171							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	576
Power Consumption(W)	184.3	17.3	34.6						

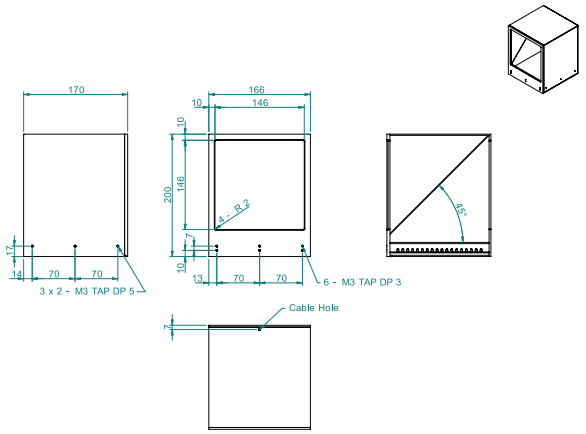


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

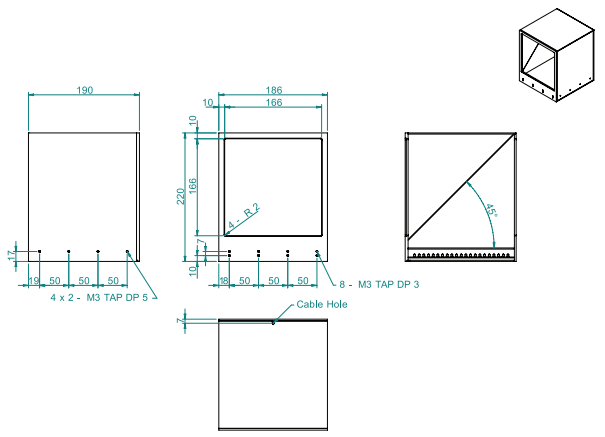
Model Name	MLI-SCI-16294							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	432
Power Consumption(W)	138.2	13.0	25.9						



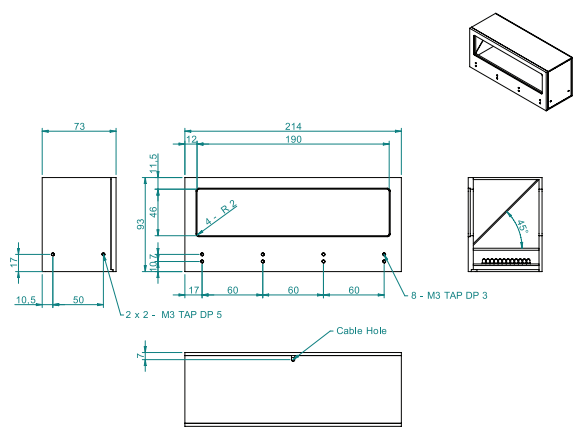
Model Name	MLI-SCI-166200							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	324
Power Consumption(W)	103.7	9.7	19.4						



Model Name	MLI-SCI-186220							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	420
Power Consumption(W)	134.4	12.6	25.2						

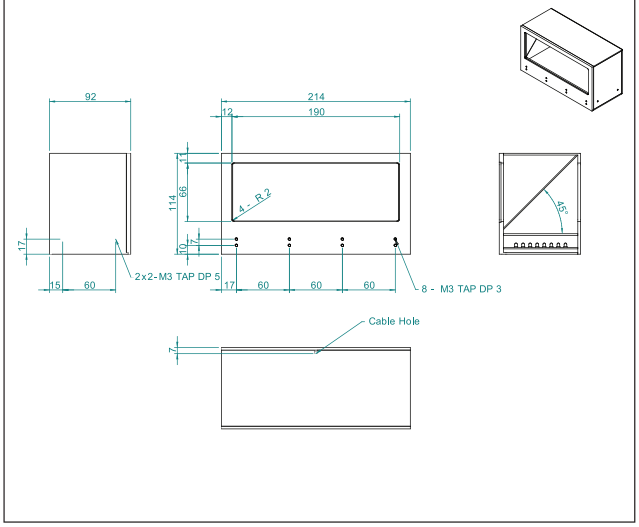


Model Name	MLI-SCI-21493							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	138
Power Consumption(W)	44.2	4.1	8.3						

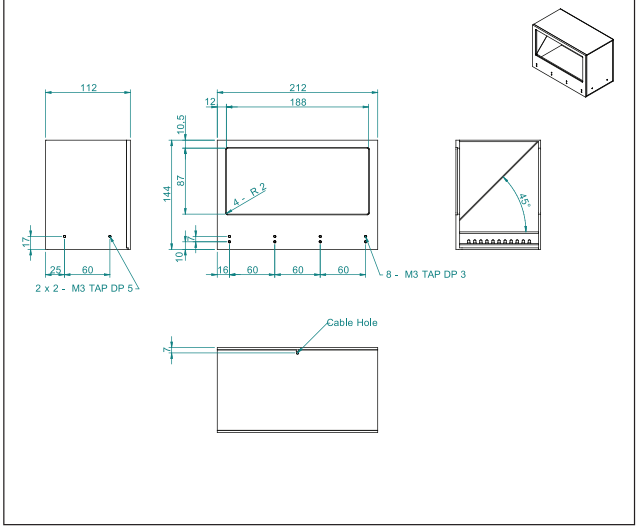


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

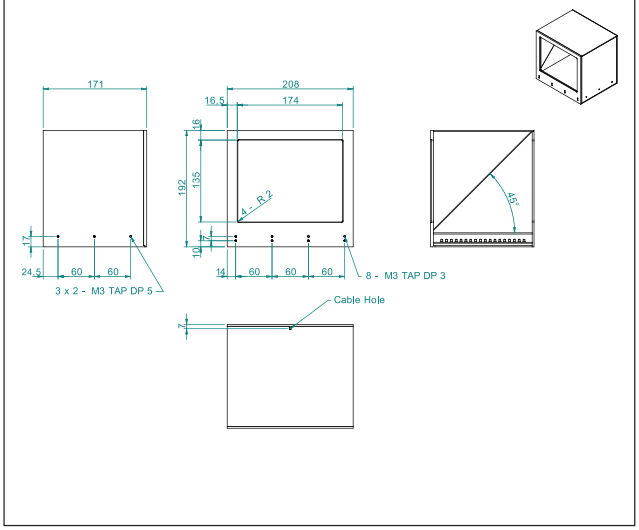
Model Name	MLI-SCI-214114							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	192
Power Consumption(W)	61.4	5.8	11.5						



Model Name	MLI-SCI-212144							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	264
Power Consumption(W)	84.5	7.9	15.8						



Model Name	MLI-SCI-208192							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	396
Power Consumption(W)	126.7	11.9	23.8						



IR : infrared (850nm/940nm)

RD : Red (660~700nm)

SW : Soft White (2,700K)

NW : Natural White (4,000~4,500K)

GR : Green (510nm)

BL : Blue (430~440nm)

UV : ultraviolet (365nm/380nm)

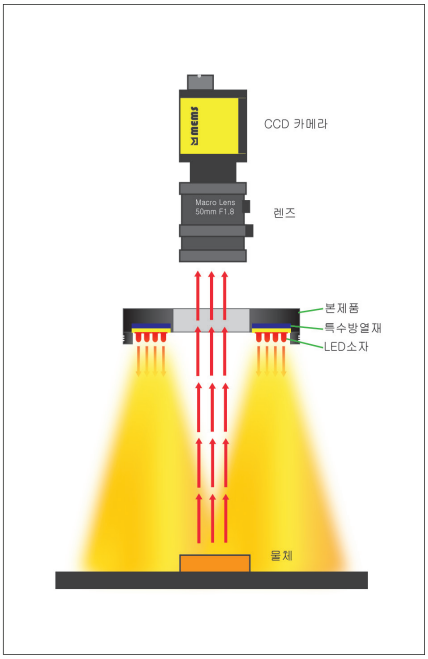
Direct
Ring illumination

Series DRI

경면 물체를 고르고 균일하게 조사

Features

- 고휘도 LED가 고밀도로 배치되어, 360도 방향에서 비추는 조명을 통해 어느 방향에서든 그림자 없는 균일한 조명을 얻을 수 있습니다.
- 고휘도 LED조명의 표준 타입으로, 장치의 특성상 설치가 쉽고 폭넓은 용도로 가장 광범위하게 사용되는 조명입니다.
- 조사방식 ▶ 빛을 샤워 방식으로 고르게 조사



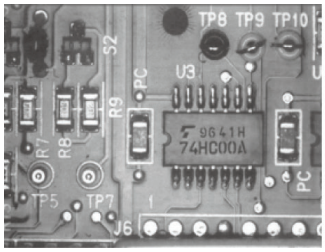
LED의 온도 상승을 대폭적으로 낮춤

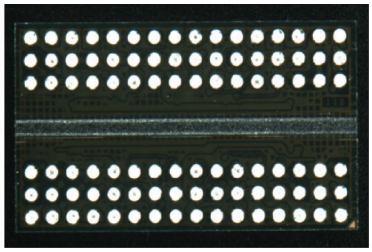
- 특수방열 구조를 채택하여 LED의 발열에 의한 온도 상승을 억제하고 휘도 저하를 최소화 하였습니다.
- 기판과 알루미늄 사이에 특수 방열재를 밀착 시켜서 LED로부터 발생한 열을 흡수하고 알루미늄 본체에 열전도를 낮추는것에 성공하여, 휘도 노화의 최대 원인인 LED의 온도 상승을 대폭적으로 억제 시키고 장기적으로 안심하고 사용할 수 있도록 LED 조명을 제공하는 것이 가능해졌습니다.

플렉시블 기판의 채택으로 품질의 향상, 생산 속도를 증가

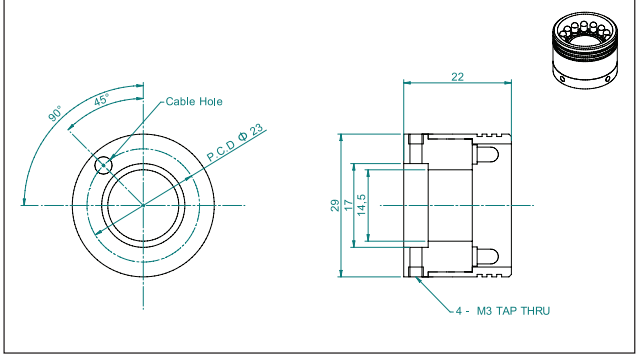
- 플렉시블 기판을 사용하여 외경, 내경, 조사 각도 등 물체에 최적인 조명을 제작 할 수 있게 되었습니다.

Sample

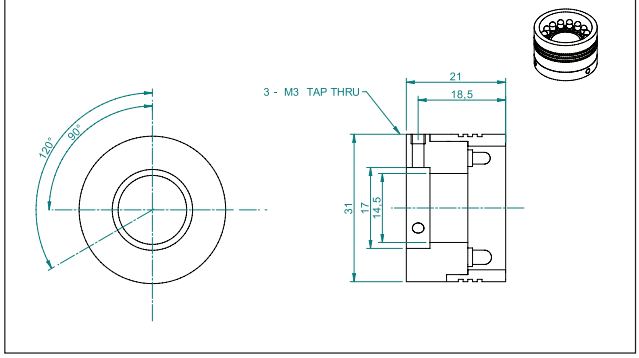




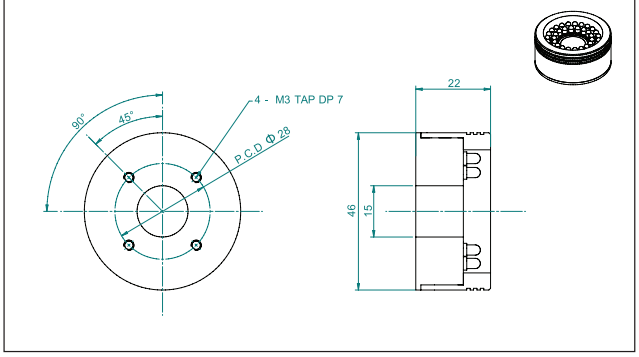
Model Name	MLI-DRI-2917							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	15
Power Consumption(W)	4.8	0.5	0.9						



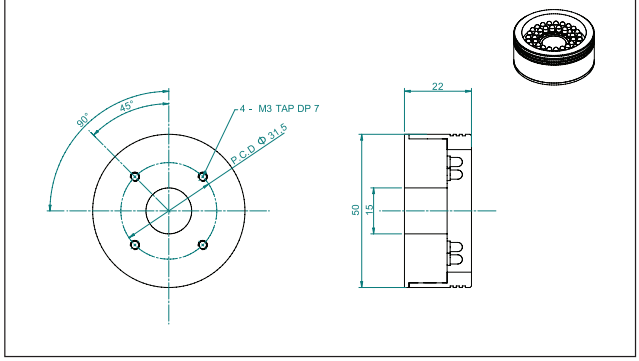
Model Name	MLI-DRI-3117							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	15
Power Consumption(W)	4.8	0.5	0.9						



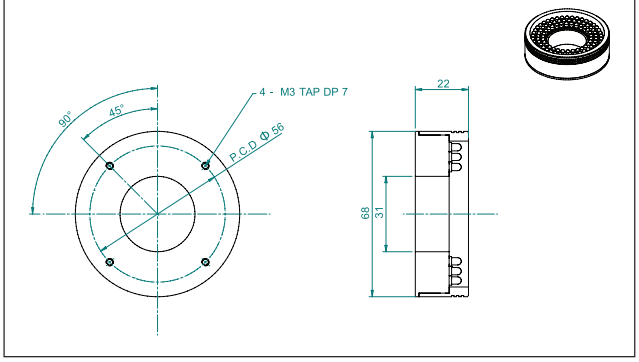
Model Name	MLI-DRI-4615							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	42
Power Consumption(W)	13.4	1.3	2.6						



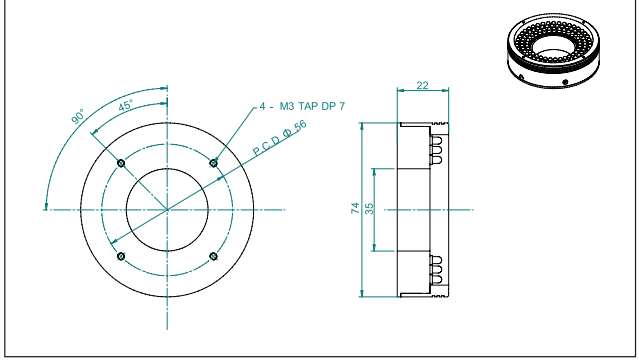
Model Name	MLI-DRI-5015							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	42
Power Consumption(W)	13.4	1.3	2.6						



Model Name	MLI-DRI-6831							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	108
Power Consumption(W)	34.6	3.2	6.4						

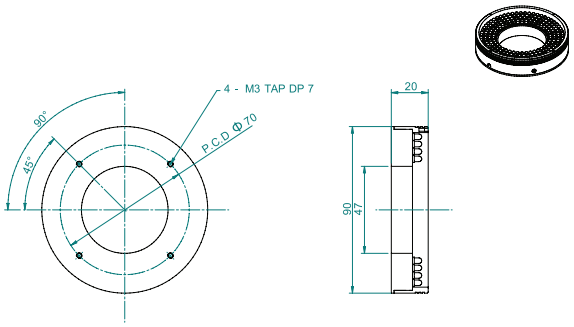


Model Name	MLI-DRI-7435							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	114
Power Consumption(W)	36.5	3.4	6.8						

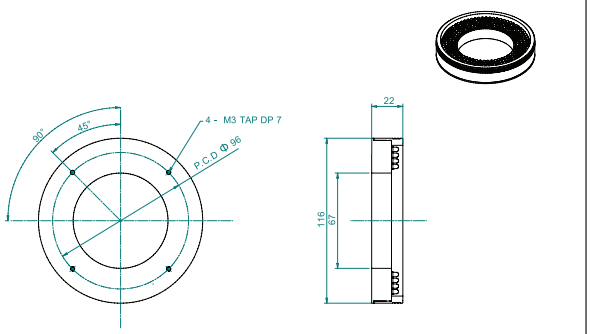


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

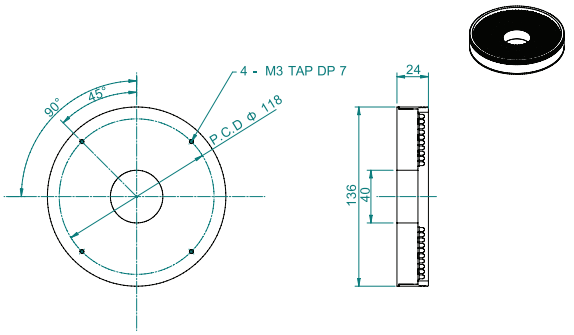
Model Name	MLI-DRI-9047							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	204
Power Consumption(W)	65.3	6.1	12.2						



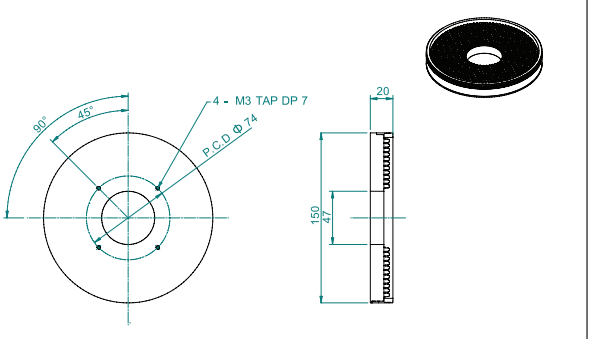
Model Name	MLI-DRI-11667							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	252
Power Consumption(W)	80.6	7.6	15.1						



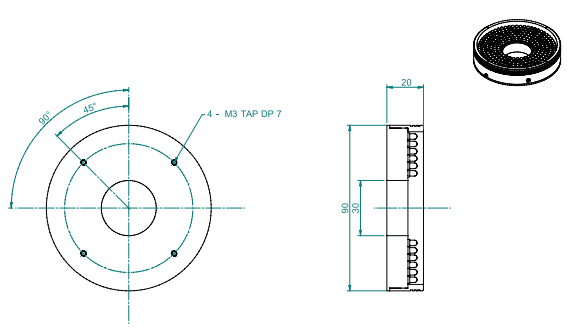
Model Name	MLI-DRI-13640							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	636
Power Consumption(W)	203.5	19.1	38.2						



Model Name	MLI-DRI-15047							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	792
Power Consumption(W)	253.4	23.8	47.5						



Model Name	MLI-DRI-9030							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	270
Power Consumption(W)	86.4	8.1	16.2						

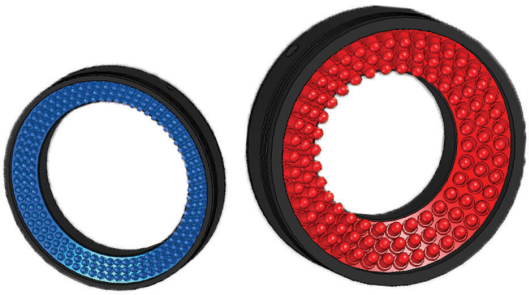


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

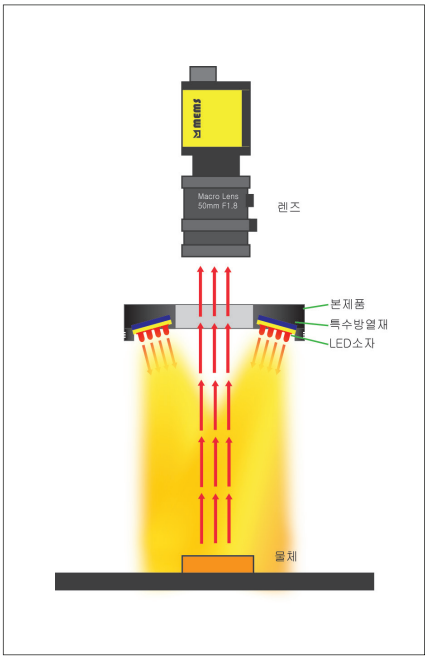
LARI Series

Low Angle Ring illumination

고밀도의 광량으로 선명하게 보고 싶은 경우



Features



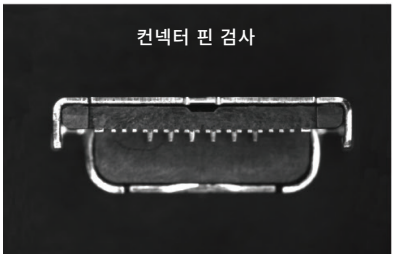
- 낮은 각도 확산 링 라이트 유닛을 사용함으로써 가까운 거리에 있는 물체에 강한 경사 광을 집광 합니다. 또한, 인식이 곤란한 엣지 및 표면상의 요철 부분은 경사진 방향에서 조사함으로써 음영에 대한 명암차이를 강조하여 촬영, 판별 합니다.
- 고휘도 LED조명의 표준 타입으로, 장치의 특성상 설치가 쉽고 폭넓은 용도로 가장 광범위하게 사용되는 조명 입니다.
- 조사방식 ▶ LED를 우산 형태로 배열하여 중심부를 집중 조사

LED의 온도 상승을 대폭적으로 낮춤

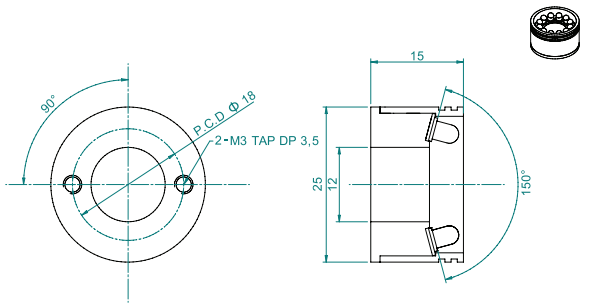
- 기판과 알루미늄 사이에 특수 방열재를 밀착 시켜서 LED로부터 발생한 열을 흡수하고 알루미늄 본체에 열전도를 낮추는것에 성공하여, 휘도 노화의 최대 원인인 LED의 온도 상승을 대폭적으로 억제 시키고 장기적으로 안심하고 사용할 수 있도록 LED 조명을 제공하는 것이 가능해졌습니다.

- 확산판, 확산링을 취부하여 광택이 있는 물체의 촬상시 문제가 되는 난반사와 LED 자신이 찍히는 것을 억제 할 수 있습니다. 또한 LED 광원이 대상물체에 직접 조사하도록 설계되어 그림자 없는 영상을 얻을 수 있습니다.

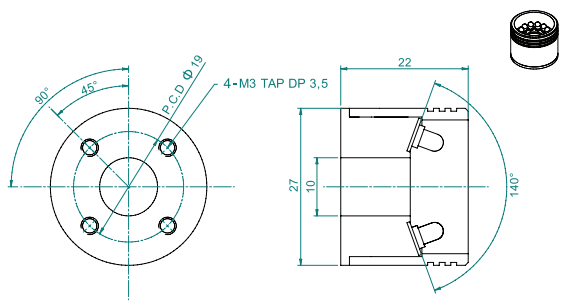
Sample



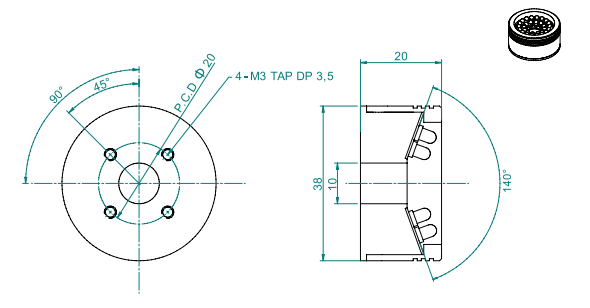
Model Name	MLI-LARI-2512							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	12
Power Consumption(W)	3.8	0.4	0.7						



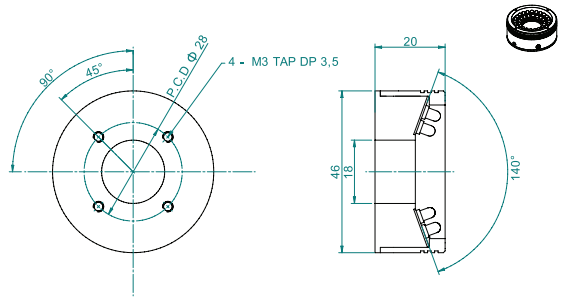
Model Name	MLI-LARI-2710							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	12
Power Consumption(W)	3.8	0.4	0.7						



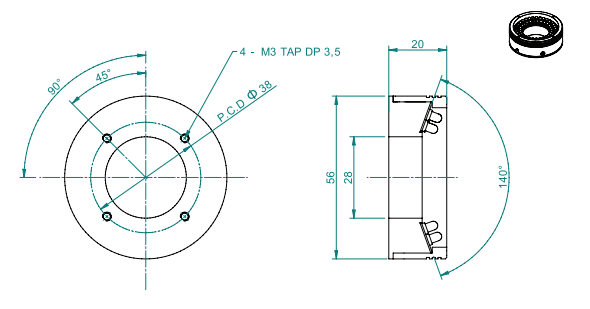
Model Name	MLI-LARI-3810							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	30
Power Consumption(W)	9.6	0.9	1.8						



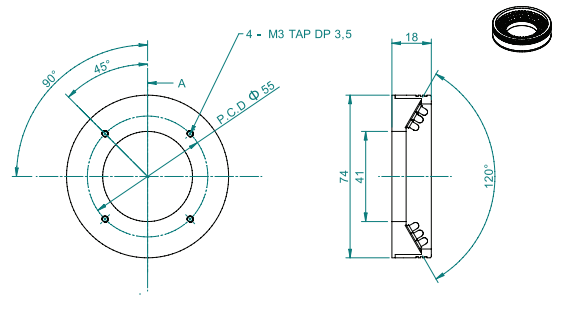
Model Name	MLI-LARI-4618							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	42
Power Consumption(W)	13.4	1.3	2.5						



Model Name	MLI-LARI-5628							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	60
Power Consumption(W)	19.2	1.8	3.6						

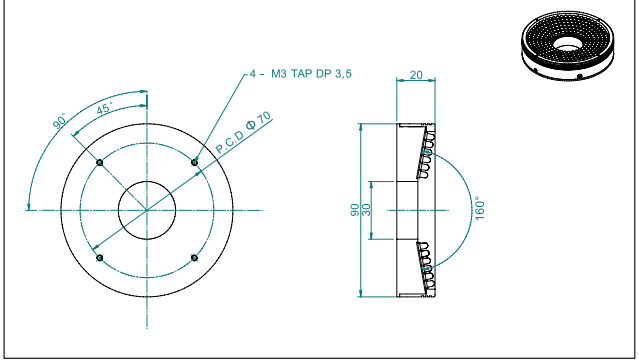


Model Name	MLI-LARI-7441							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	126
Power Consumption(W)	40.3	3.8	7.6						

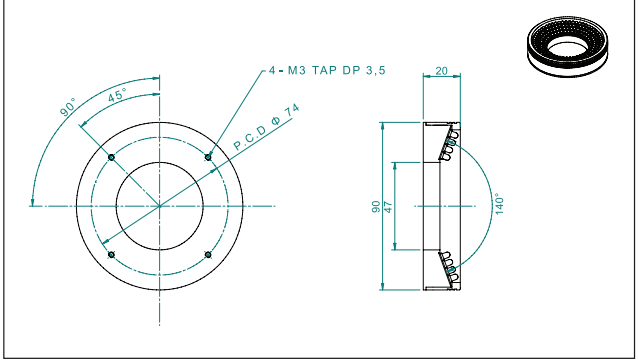


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

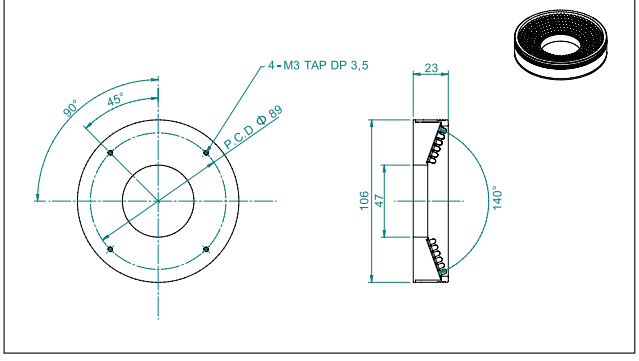
Model Name	MLI-LARI-9030							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	342
Power Consumption(W)	109.4	10.3	20.5						



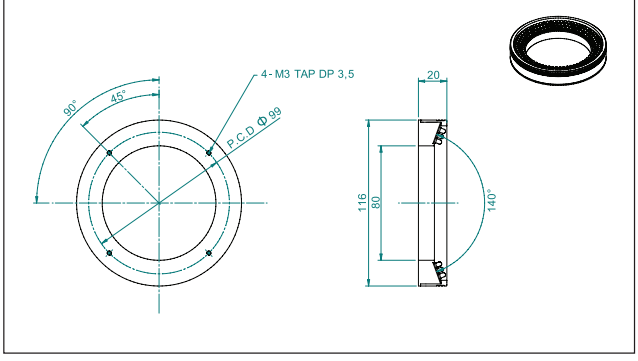
Model Name	MLI-LARI-9047							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	204
Power Consumption(W)	65.3	6.1	12.2						



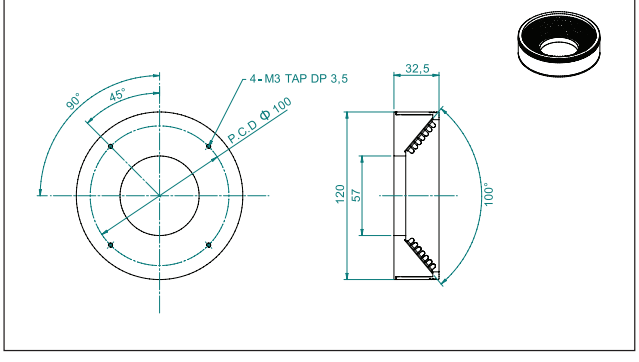
Model Name	MLI-LARI-10647							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	342
Power Consumption(W)	109.4	10.3	20.5						



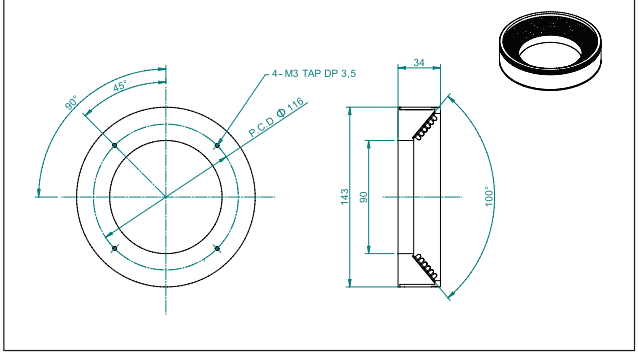
Model Name	MLI-LARI-11680							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	198
Power Consumption(W)	63.4	5.9	11.9						



Model Name	MLI-LARI-12057							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	450
Power Consumption(W)	144	13.5	27						

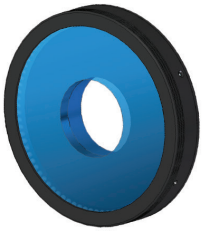


Model Name	MLI-LARI-14390							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	414
Power Consumption(W)	132.5	12.4	24.8						



IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

상부로부터 확산광을 균일하게 조사

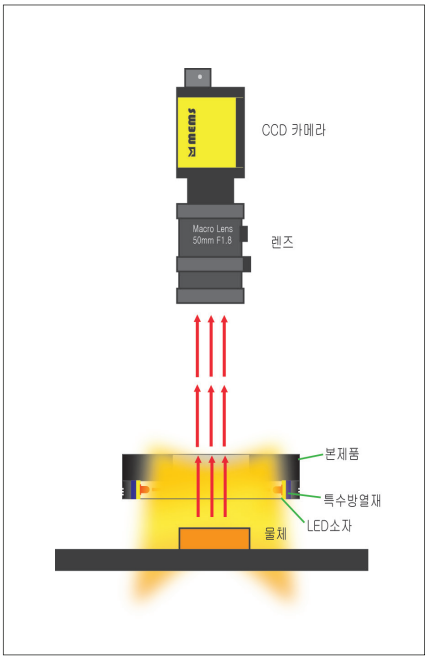


Features

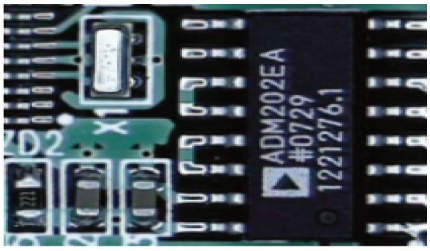
도광 방식의 박형 플랫 링

- 직선상의 플렉시블 기판에 LED를 배치하고 도광 확산판의 주변에 말듯이 부착하여 고정시키고 LED로부터의 직접광을 효율이 좋게 내부로 들어갈 수 있도록 합니다.
- 또한, 표면에 반사막을 가공함으로써 광은 발광체로부터 방출 직후에 복잡하게 굴절되고 도광 확산판 전체에 광이 고르게 퍼져 보다 균일하게 발광되는 것이 가능해졌습니다.
- 특수 가공된 도광 확산판을 사용하여 대상물체에 매우 균일한 빛을 조사함으로써 경면체의 마킹 및 파손 등도 정확히 확인 할 수 있습니다.

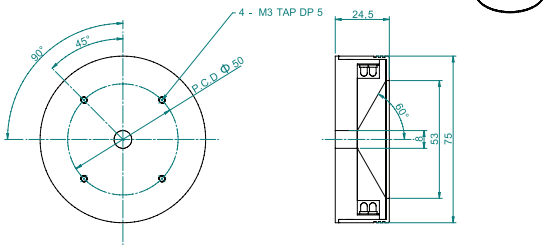
- 광택이 있는 검출체로부터 균일하고 얼룩이 없는 부드러운 확산 조명을 얻을 수 있습니다.
- 헐레이션(Halation) 현상으로부터 최적의 결과물을 얻을 수 있으며, 검출체에 적합 합니다.



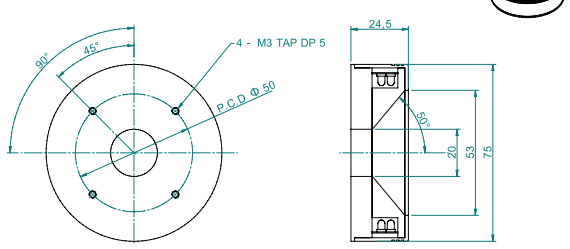
Sample



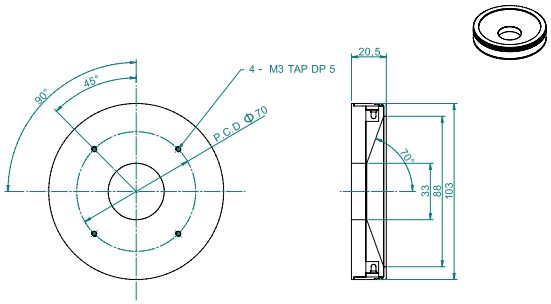
Model Name	MLI-SI-HLR-758							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	96
Power Consumption(W)	30.7	2.9	5.8						



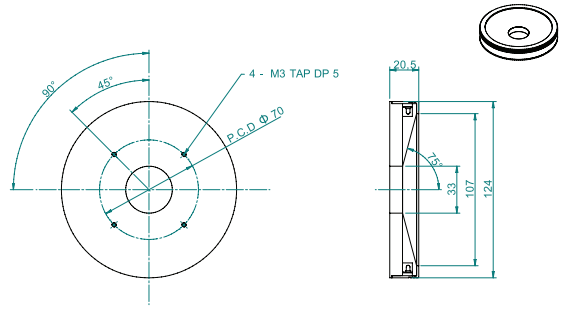
Model Name	MLI-SI-HLR-7520							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	96
Power Consumption(W)	30.7	2.9	5.8						



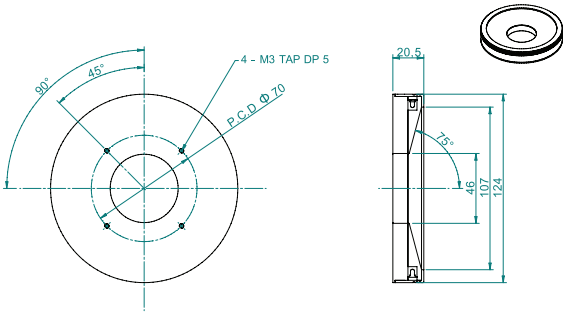
Model Name	MLI-SI-HLR-10333							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	72
Power Consumption(W)	23.0	2.2	4.3						



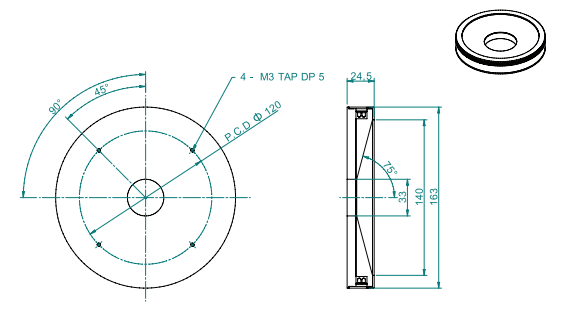
Model Name	MLI-SI-HLR-12433							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	84
Power Consumption(W)	26.9	2.5	5.0						



Model Name	MLI-SI-HLR-12446							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	84
Power Consumption(W)	26.9	2.5	5.0						

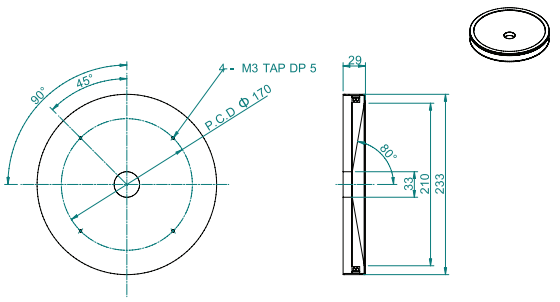


Model Name	MLI-SI-HLR-16333							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	228
Power Consumption(W)	73.0	6.8	13.7						

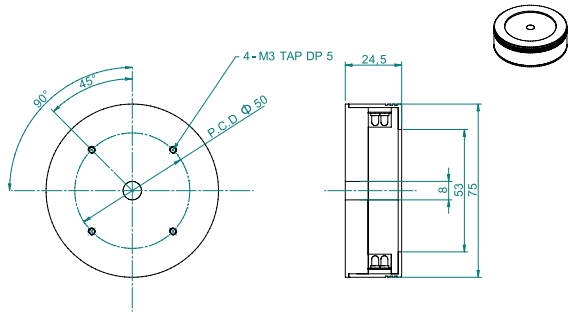


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

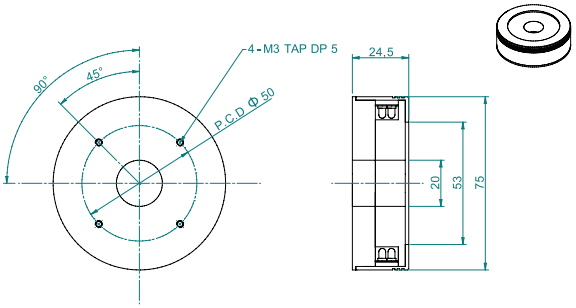
Model Name	MLI-SI-HLR-23333							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	336
Power Consumption(W)	107.5	10.1	20.2						



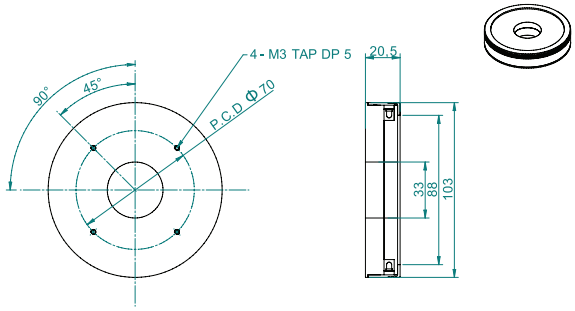
Model Name	MLI-SI-HR-758							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	96
Power Consumption(W)	30.7	2.9	5.8						



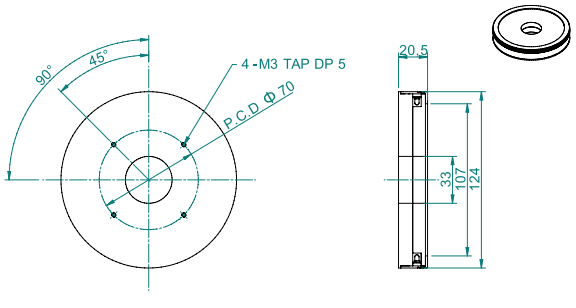
Model Name	MLI-SI-HR-7520							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	96
Power Consumption(W)	30.7	2.9	5.8						



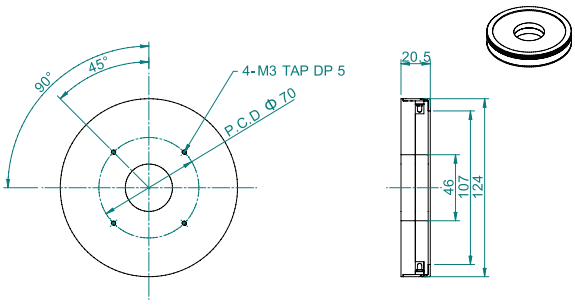
Model Name	MLI-SI-HR-10333							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	72
Power Consumption(W)	23.0	2.2	4.3						



Model Name	MLI-SI-HR-12433							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	84
Power Consumption(W)	26.9	2.5	5.0						

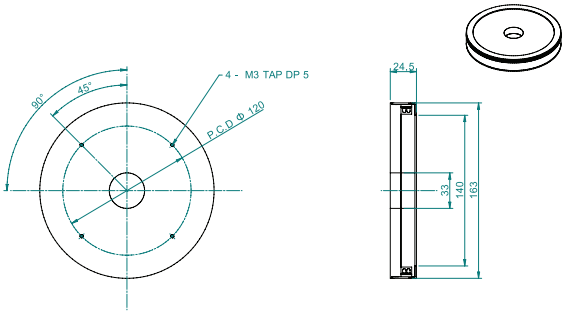


Model Name	MLI-SI-HR-12446							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	84
Power Consumption(W)	26.9	2.5	5.0						

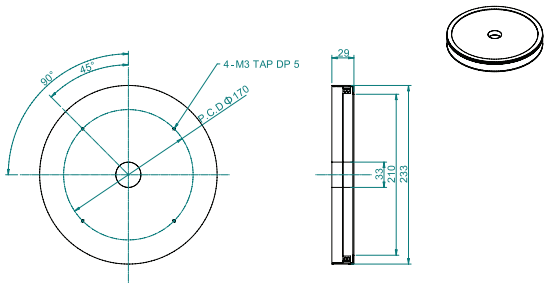


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

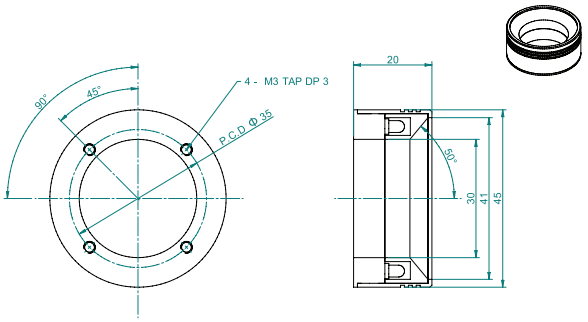
Model Name	MLI-SI-HR-16333							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	228
Power Consumption(W)	73.0	6.8	13.7						



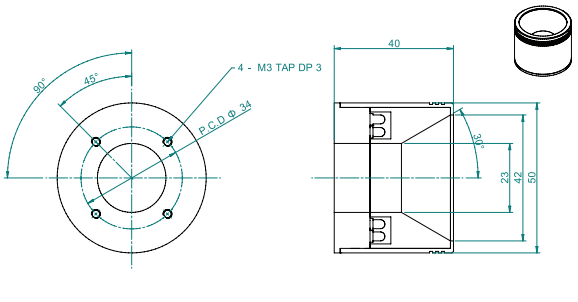
Model Name	MLI-SI-HR-23333							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	336
Power Consumption(W)	107.5	10.1	20.2						



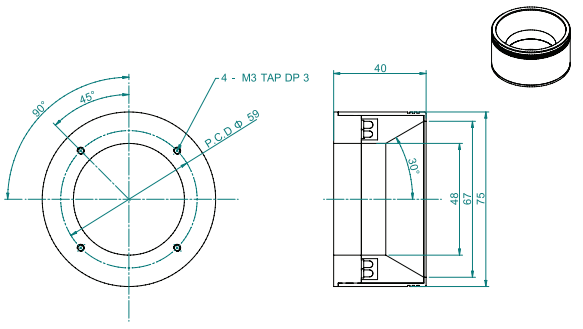
Model Name	MLI-SI-DR-4530							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	24
Power Consumption(W)	7.7	0.7	1.4						



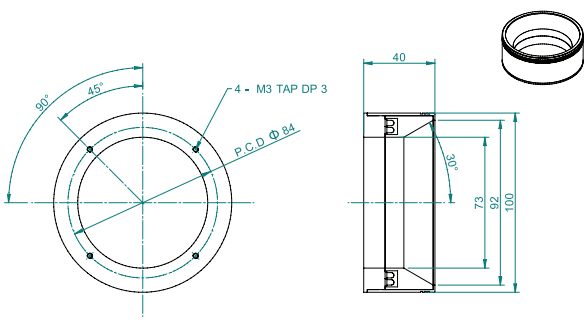
Model Name	MLI-SI-DR-5023							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	54
Power Consumption(W)	17.3	1.6	3.2						



Model Name	MLI-SI-DR-7548							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	90
Power Consumption(W)	28.8	2.7	5.4						

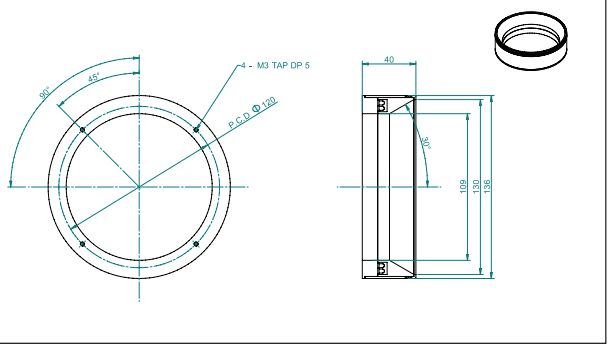


Model Name	MLI-SI-DR-10073							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	126
Power Consumption(W)	40.3	3.8	7.6						

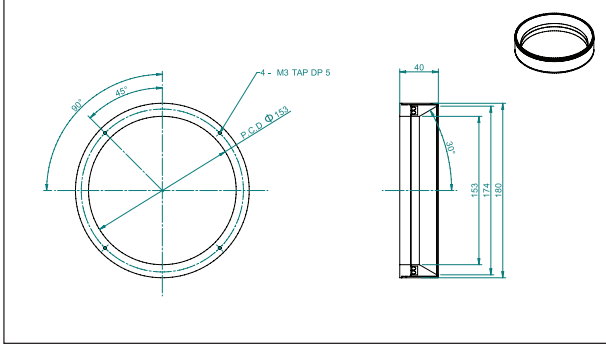


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

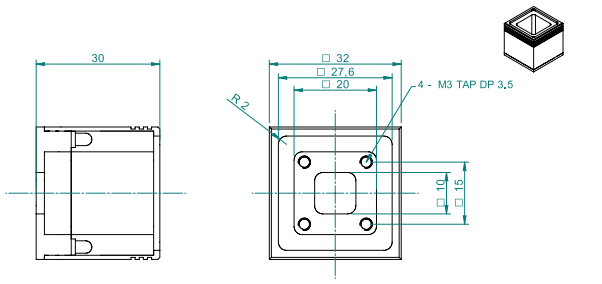
Model Name	MLI-SI-DR-136109							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	186
Power Consumption(W)	59.5	5.6	11.2						



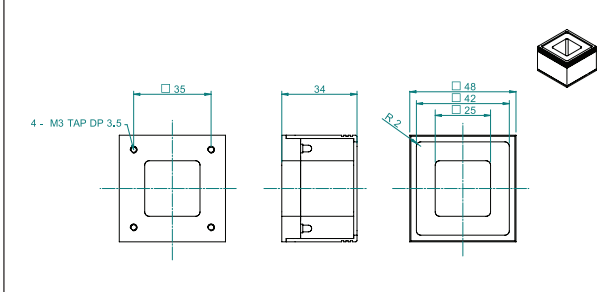
Model Name	MLI-SI-DR-180153							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	252
Power Consumption(W)	80.6	7.6	15.1						



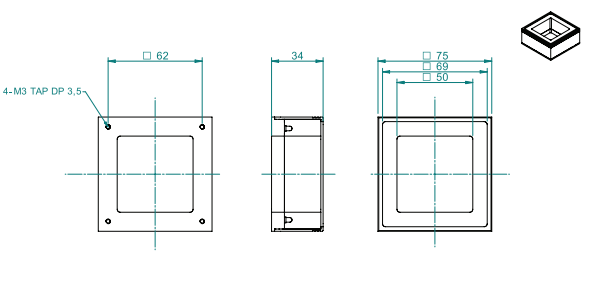
Model Name	MLI-SI-DS-32							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	24
Power Consumption(W)	7.7	0.7	1.4						



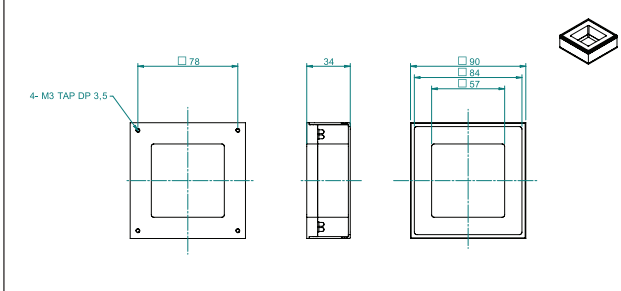
Model Name	MLI-SI-DS-48							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	36
Power Consumption(W)	11.5	1.1	2.2						



Model Name	MLI-SI-DS-75							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	60
Power Consumption(W)	19.2	1.8	3.6						

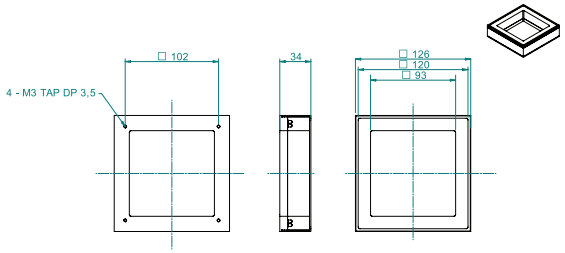


Model Name	MLI-SI-DS-90							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	144
Power Consumption(W)	46.1	4.3	8.6						

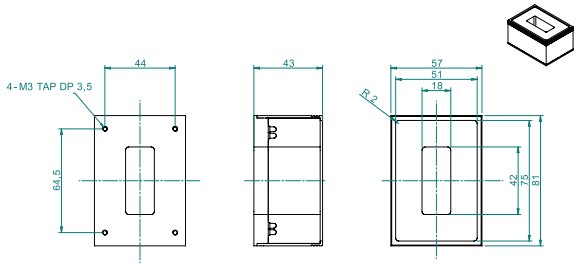


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

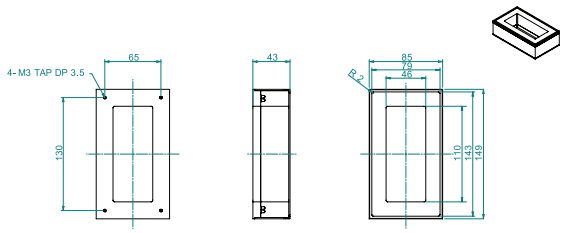
Model Name	MLI-SI-DS-126							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	216
Power Consumption(W)	69.1	6.5	13.0						



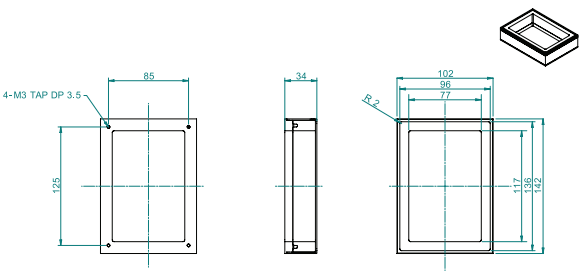
Model Name	MLI-SI-DS-8157							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	90
Power Consumption(W)	28.8	2.7	5.4						



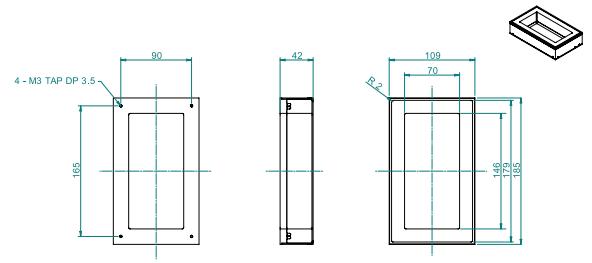
Model Name	MLI-SI-DS-14985							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	192
Power Consumption(W)	61.4	5.8	11.5						



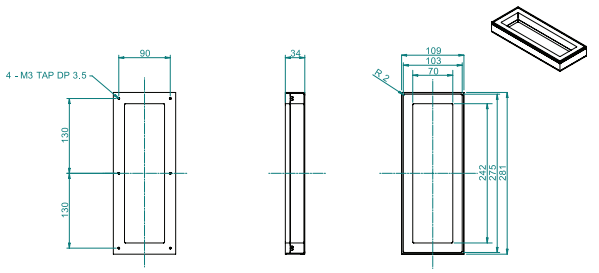
Model Name	MLI-SI-DS-142102							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	108
Power Consumption(W)	34.6	3.2	6.4						



Model Name	MLI-SI-DS-185109							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	252
Power Consumption(W)	80.6	7.6	15.1						

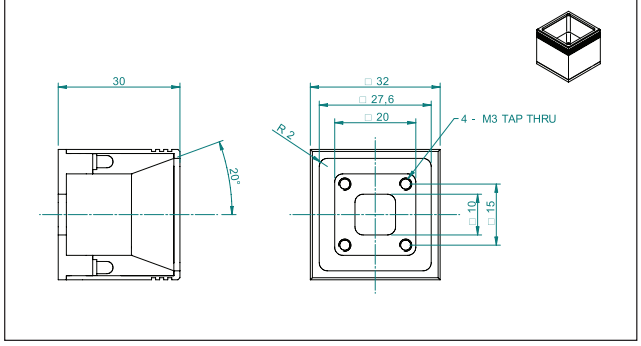


Model Name	MLI-SI-DS-281109							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	348
Power Consumption(W)	111.4	10.4	20.9						

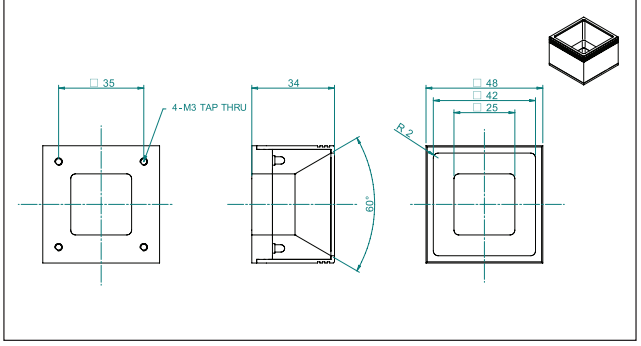


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

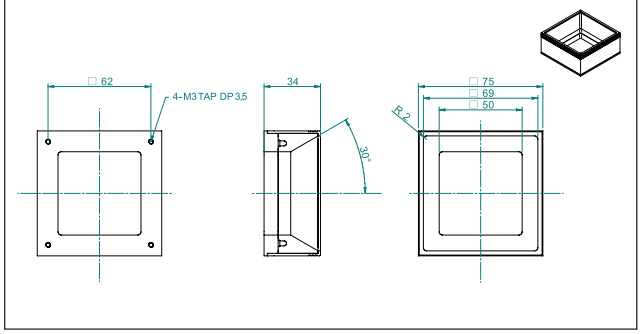
Model Name	MLI-SI-DLS-32							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	24
Power Consumption(W)	7.7	0.7	1.4						



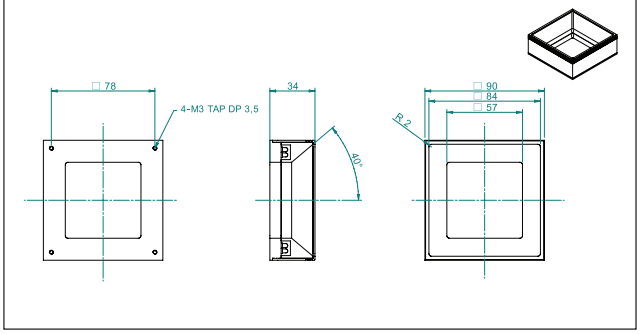
Model Name	MLI-SI-DLS-48							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	36
Power Consumption(W)	11.5	1.1	2.2						



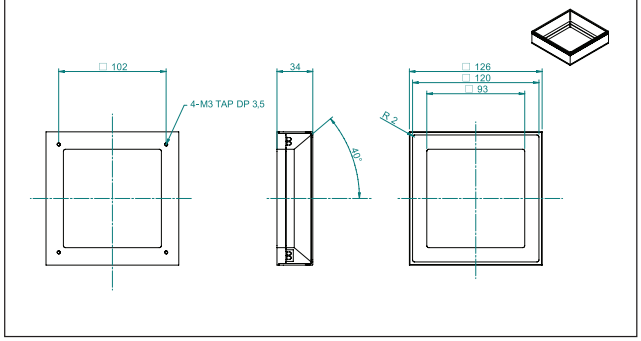
Model Name	MLI-SI-DLS-75							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	60
Power Consumption(W)	19.2	1.8	3.6						



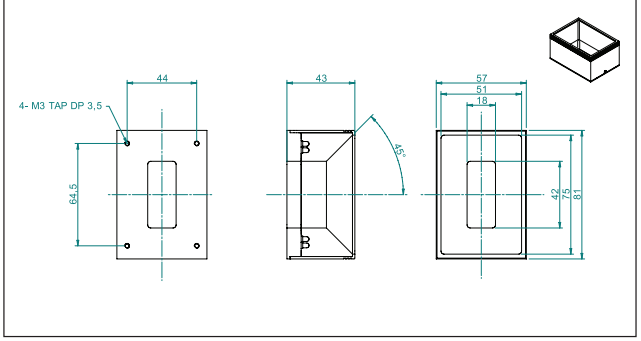
Model Name	MLI-SI-DLS-90							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	144
Power Consumption(W)	46.1	4.3	8.6						



Model Name	MLI-SI-DLS-126							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	216
Power Consumption(W)	69.1	6.5	13.0						

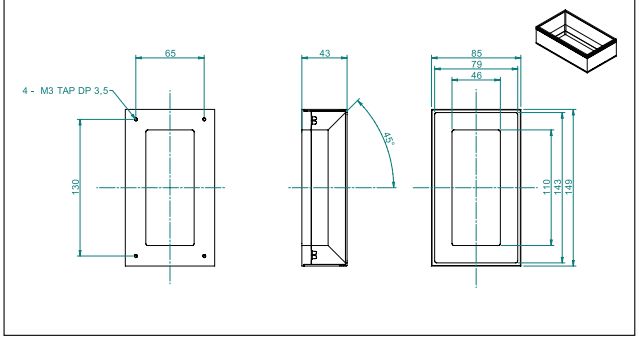


Model Name	MLI-SI-DLS-8157							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	96
Power Consumption(W)	30.7	2.9	5.8						

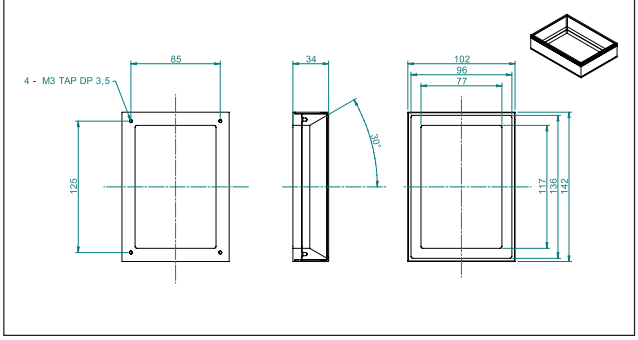


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

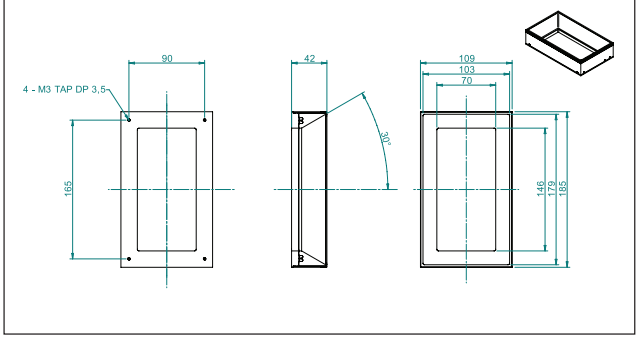
Model Name	MLI-SI-DLS-14985							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	192
Power Consumption(W)	61.4	5.8	11.5						



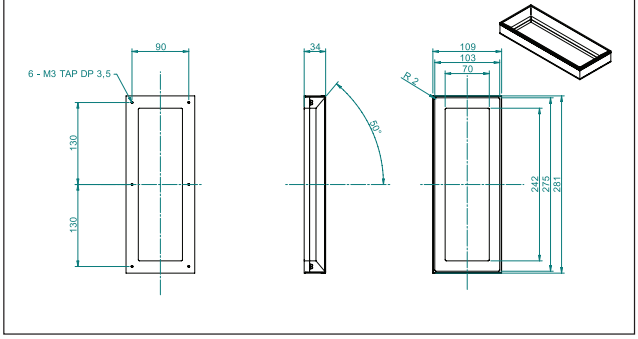
Model Name	MLI-SI-DLS-142102							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	108
Power Consumption(W)	34.6	3.2	6.5						



Model Name	MLI-SI-DLS-185109							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	252
Power Consumption(W)	80.6	7.6	15.1						



Model Name	MLI-SI-DLS-281109							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	348
Power Consumption(W)	111.4	10.4	20.9						



IR : infrared (850nm/940nm)

RD : Red (660~700nm)

SW : Soft White (2,700K)

NW : Natural White (4,000~4,500K)

GR : Green (510nm)

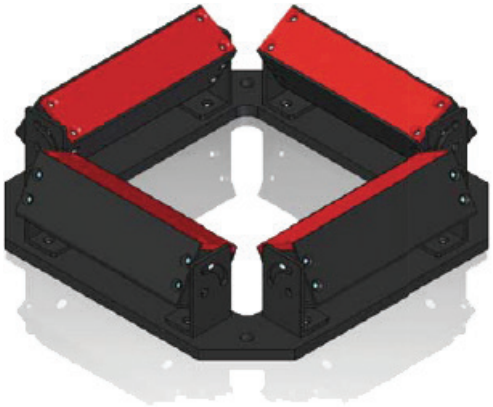
BL : Blue (430~440nm)

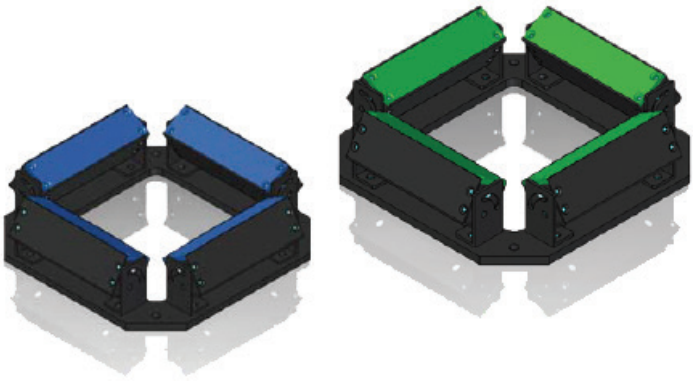
UV : ultraviolet (365nm/380nm)

Square Bar
illumination

Series SBI

경면 물체를 고르고 균일하게 조사

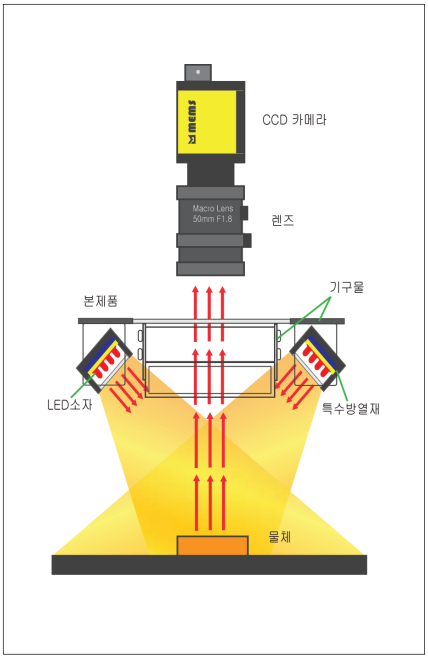




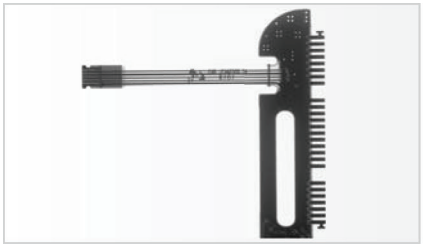
Features

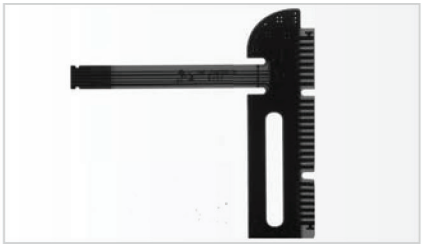
취부 각도 조정 가능

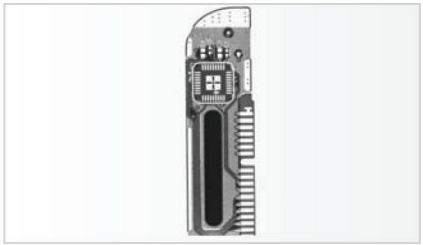
- 취부 각도를 4방향으로 자유롭게 지정 가능하여 각각 독립적으로 각도 조절이 가능하여 광범위한 용도로 사용이 가능 합니다.
- High Angle 에서 Low Angle 까지 입사각의 설정과 자유도가 높아 취부각도 방향에 따라 완전히 다른 영상을 잡을 수 있습니다.
- 물체에 따라 광택의 유선 및 무선의 유무 등 여러가지 상황에서 정반사광 및 확산 반사광을 차단하는 것이 가능하여 최적의 촬상을 할 수 있습니다.



Sample

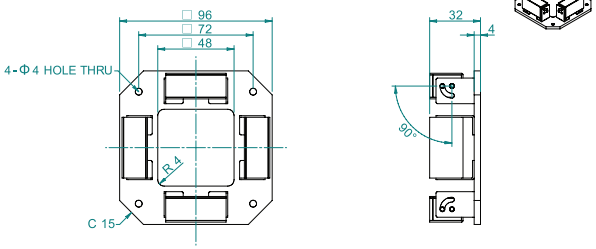




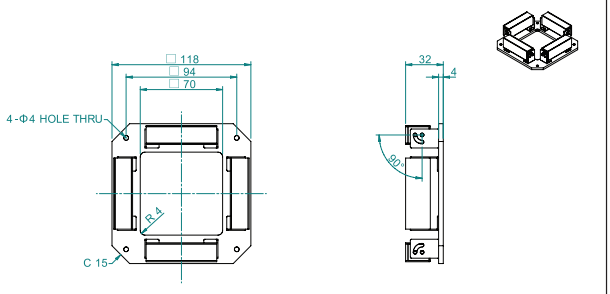


PCB 패턴 검사

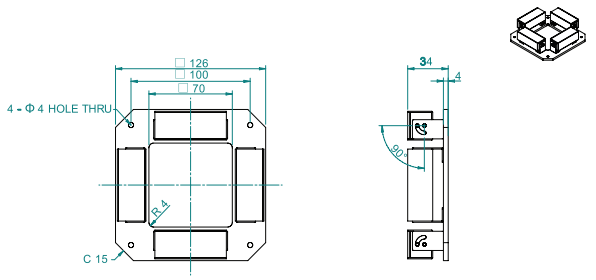
Model Name	MLI-SBI-96							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	72
Power Consumption(W)	23.0	2.2	4.3						



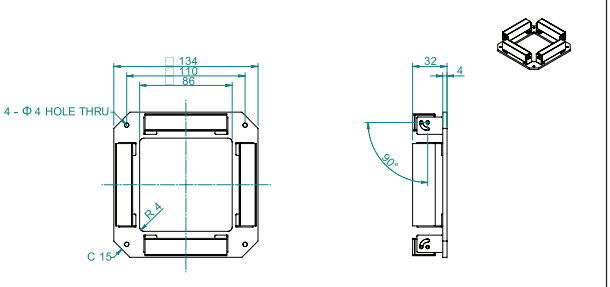
Model Name	MLI-SBI-118							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	144
Power Consumption(W)	46.1	4.3	8.6						



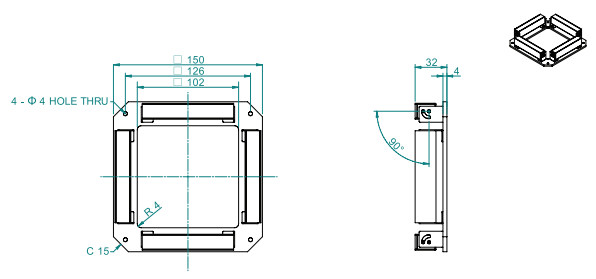
Model Name	MLI-SBI-126							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	240
Power Consumption(W)	76.8	7.2	14.4						



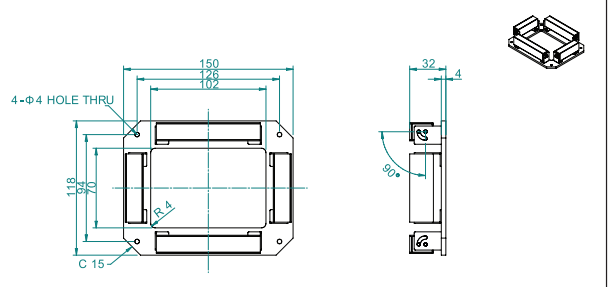
Model Name	MLI-SBI-134							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	192
Power Consumption(W)	61.4	5.8	11.5						



Model Name	MLI-SBI-150							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	240
Power Consumption(W)	76.8	7.2	14.4						

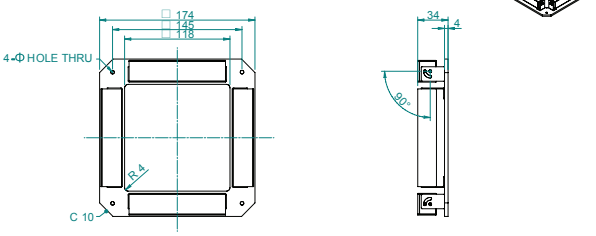


Model Name	MLI-SBI-150118							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	192
Power Consumption(W)	61.4	5.8	11.5						

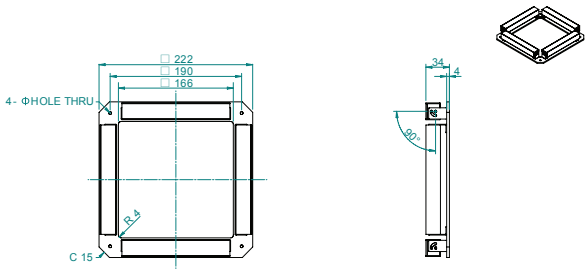


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

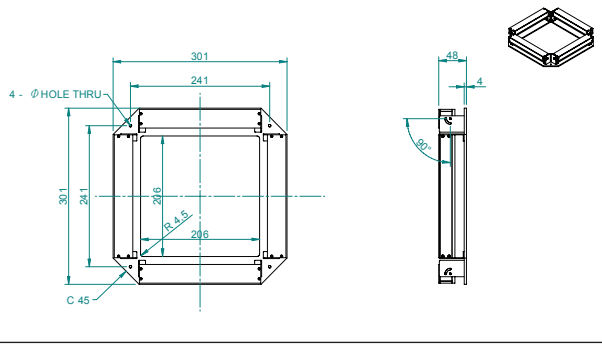
Model Name	MLI-SBI-174							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	480
Power Consumption(W)	153.6	14.4	28.8						



Model Name	MLI-SBI-222							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	720
Power Consumption(W)	230.4	21.6	43.2						



Model Name	MLI-SBI-301							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	528
Power Consumption(W)	169	15.8	31.7						



IR : infrared (850nm/940nm)

RD : Red (660~700nm)

SW : Soft White (2,700K)

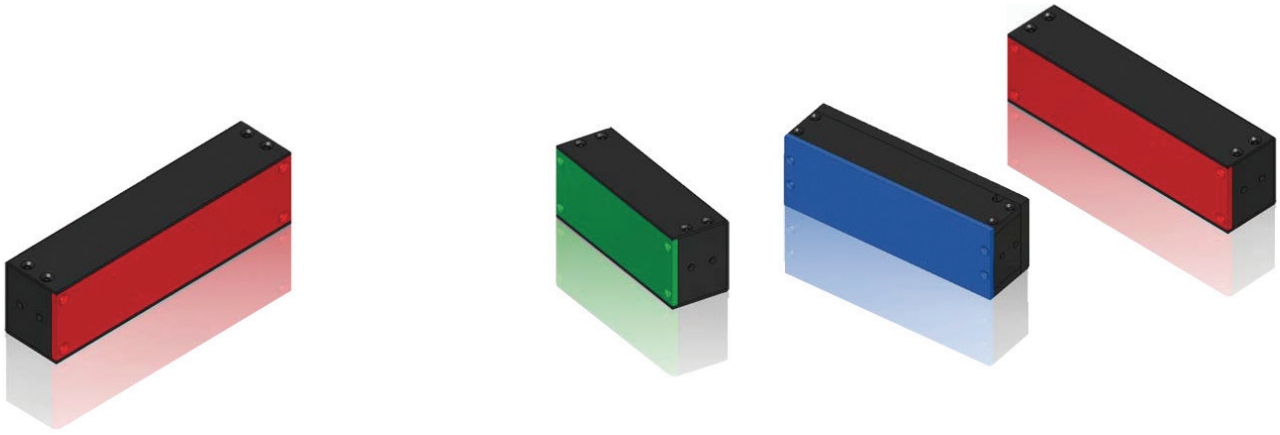
NW : Natural White (4,000~4,500K)

GR : Green (510nm)

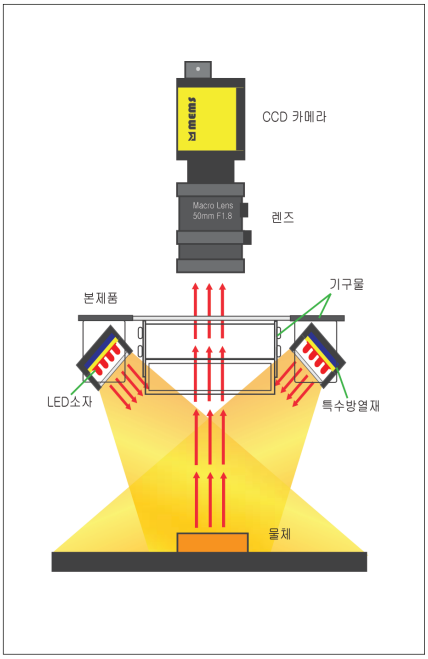
BL : Blue (430~440nm)

UV : ultraviolet (365nm/380nm)

경면 물체를 고르고 균일하게 조사



Features



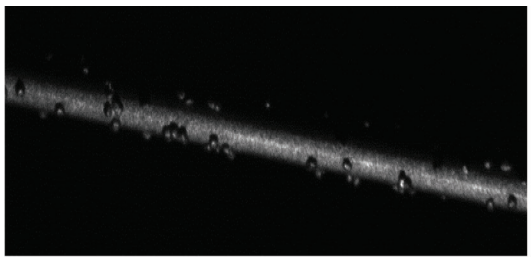
취부 각도가 조정 가능

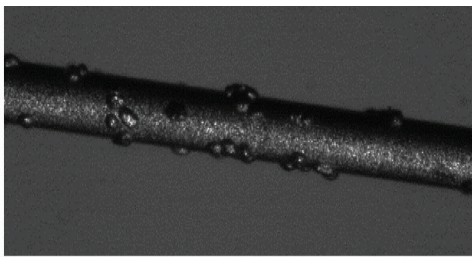
- 취부 각도를 자유롭게 지정 가능하여 광범위한 용도로 사용이 가능 합니다.
- 조명은 취부 각도, 방향에 따라 완전히 다른 영상을 잡을 수 있습니다.
- 물체에 따라 광택의 유선 및 무선의 유무 등 여러가지 상황에서 정반사광 및 확산 반사광을 차단하는 것이 가능하여 최적의 촬상을 할 수 있습니다.

고른 지향 특성

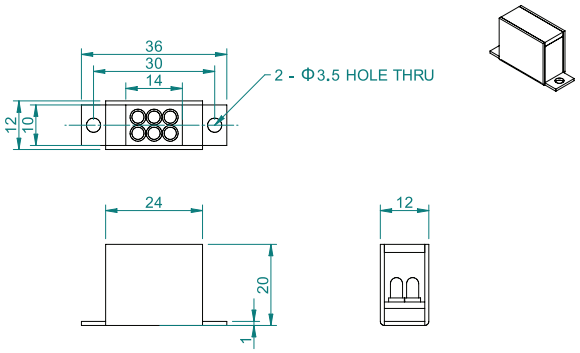
- 물체와의 거리, 시양에 따라 LED의 지향 특성을 선택할 수 있습니다.
- WD타입은 넓은 시야를 균일하게 보고 싶은 경우에 무 기호 타입은 좁은 범위를 밝게 보고 싶은 경우에 선택 합니다.

Sample

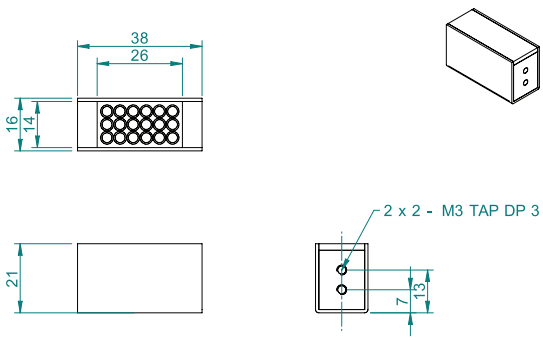




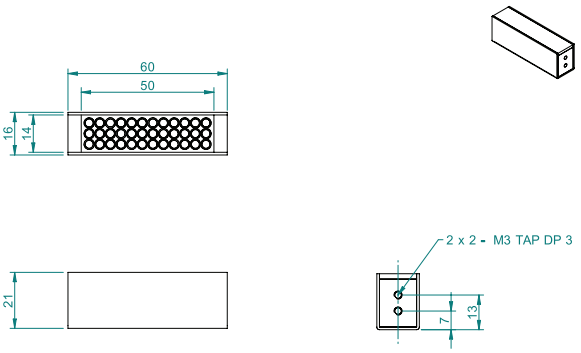
Model Name	MLI-BI-3612							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	6
Power Consumption(W)	1.9	0.2	0.4						



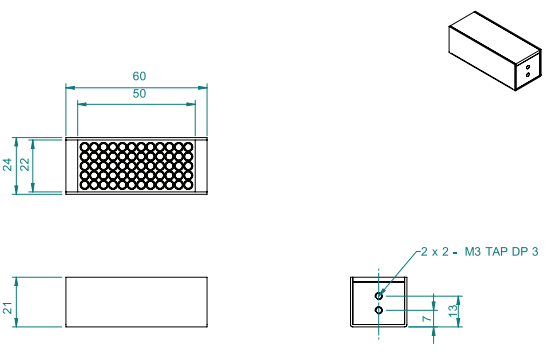
Model Name	MLI-BI-3816							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	18
Power Consumption(W)	5.8	0.5	1.1						



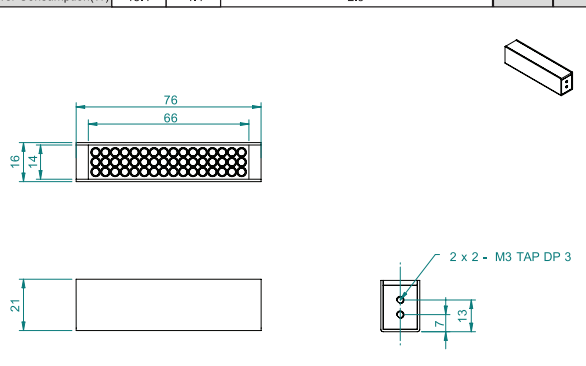
Model Name	MLI-BI-6016							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	36
Power Consumption(W)	11.5	1.1	2.2						



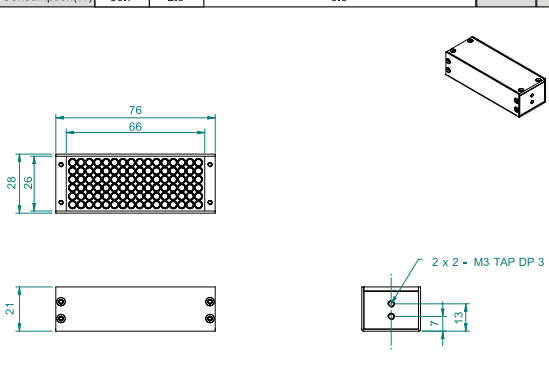
Model Name	MLI-BI-6024							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	60
Power Consumption(W)	19.2	1.8	3.6						



Model Name	MLI-BI-7616							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	48
Power Consumption(W)	15.4	1.4	2.9						

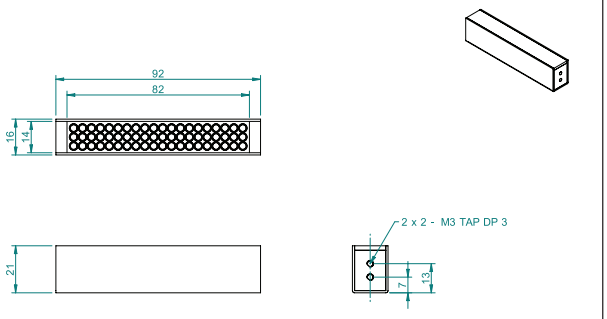


Model Name	MLI-BI-7628							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	96
Power Consumption(W)	30.7	2.9	5.8						

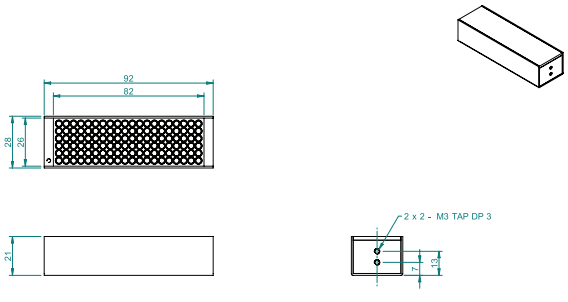


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

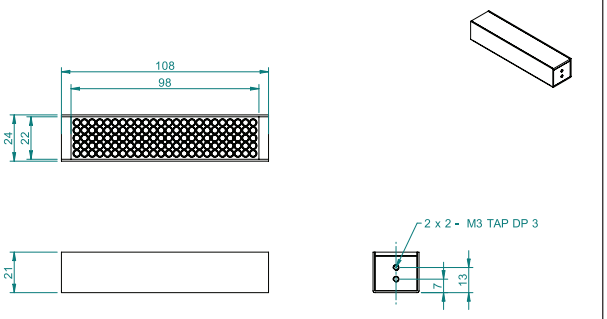
Model Name	MLI-BI-9216							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	60
Power Consumption(W)	19.2	1.8	3.6						



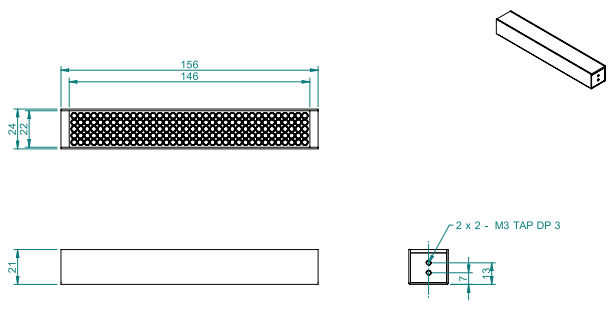
Model Name	MLI-BI-9228							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	90
Power Consumption(W)	28.8	2.7	5.4						



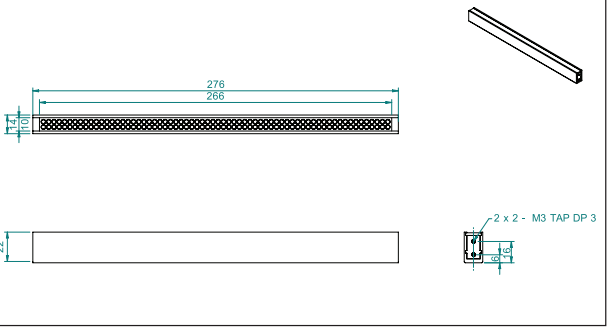
Model Name	MLI-BI-10824							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	120
Power Consumption(W)	38.4	3.6	7.2						



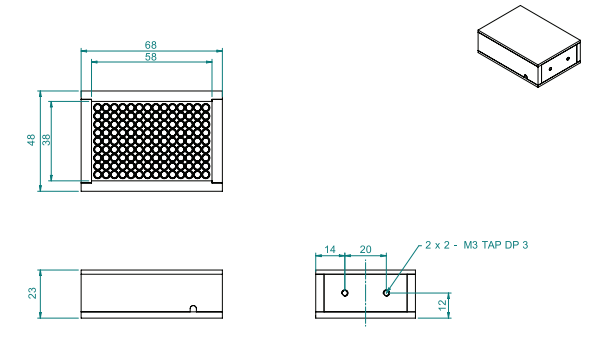
Model Name	MLI-BI-15624							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	180
Power Consumption(W)	57.6	5.4	10.8						



Model Name	MLI-BI-27614							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	132
Power Consumption(W)	42.2	4.0	7.9						

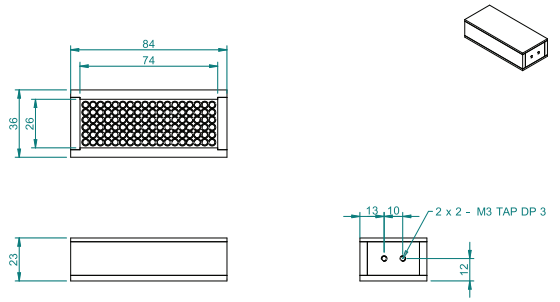


Model Name	MLI-BI-6848							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	126
Power Consumption(W)	40.3	3.8	7.6						

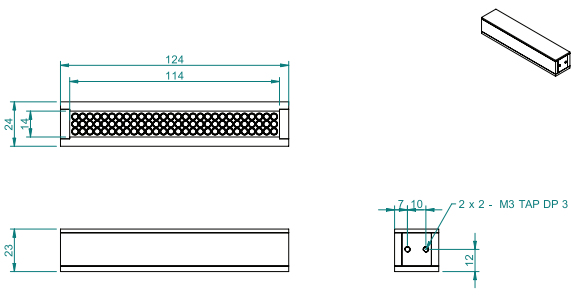


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

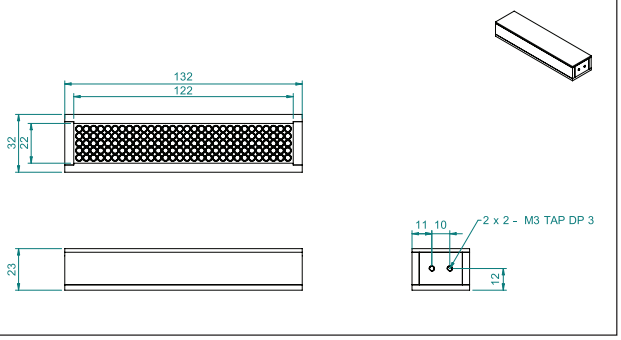
Model Name	MLI-BI-8436							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	96
Power Consumption(W)	30.7	2.9	5.8						



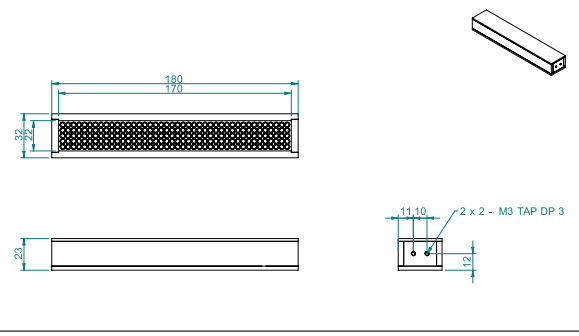
Model Name	MLI-BI-12424							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	84
Power Consumption(W)	26.9	2.5	5.0						



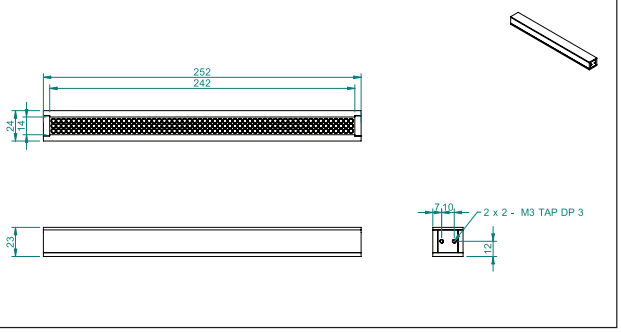
Model Name	MLI-BI-13232							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	150
Power Consumption(W)	48.0	4.5	9.0						



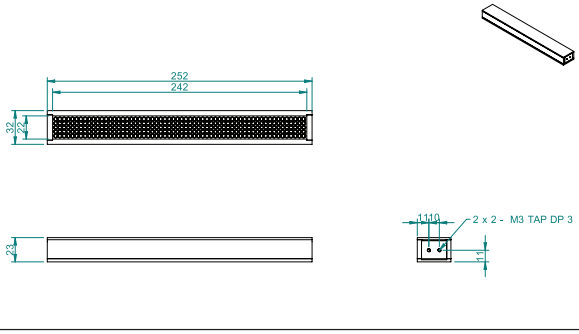
Model Name	MLI-BI-18032							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	210
Power Consumption(W)	67.2	6.3	12.6						



Model Name	MLI-BI-25224							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	180
Power Consumption(W)	57.6	5.4	10.8						

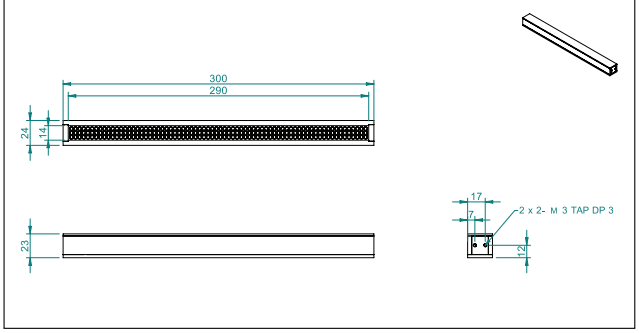


Model Name	MLI-BI-25232							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	300
Power Consumption(W)	96.0	9.0	18.0						

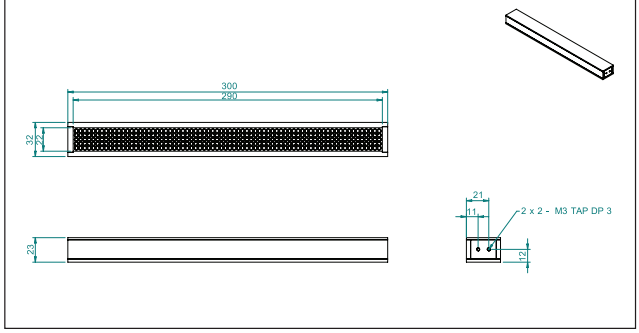


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

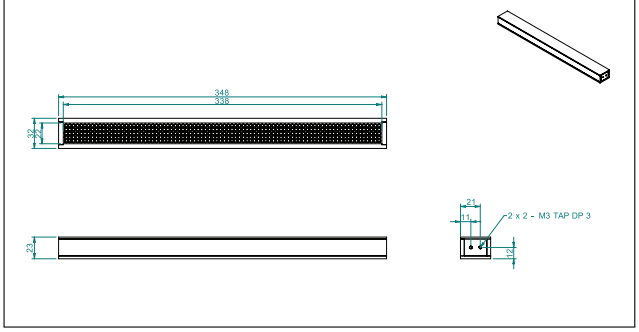
Model Name	MLI-BI-30024							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	216
Power Consumption(W)	69.1	6.5	13.0						



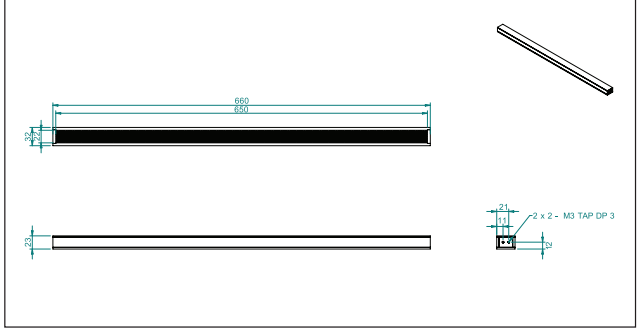
Model Name	MLI-BI-30032							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	360
Power Consumption(W)	115.2	10.8	21.6						



Model Name	MLI-BI-34832							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	420
Power Consumption(W)	134.4	12.6	25.2						



Model Name	MLI-BI-66032							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	810
Power Consumption(W)	259.2	24.3	48.6						

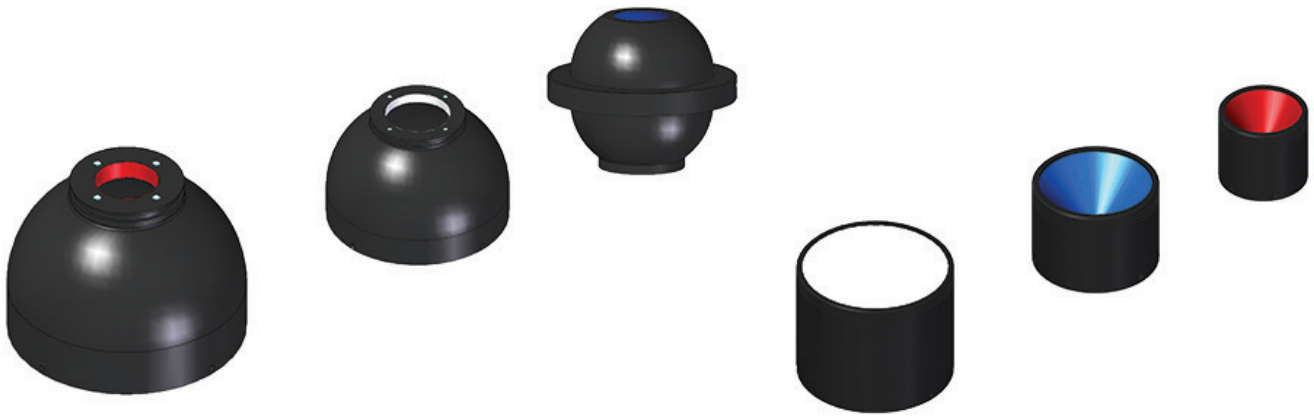


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

Dome
illumination

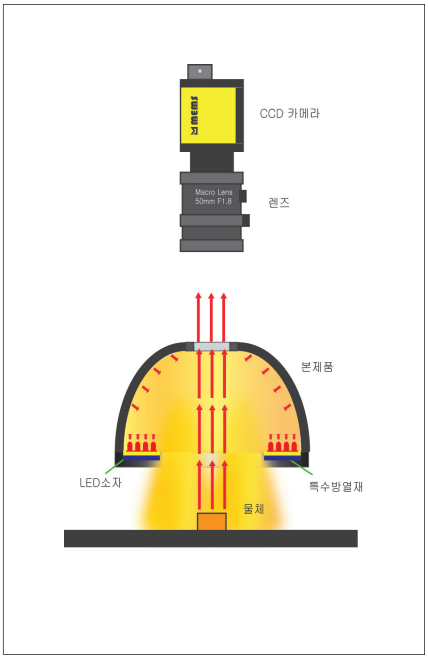
Series DI

돔 형태의 다이렉트 조명으로 여러 파장대가 들어간 혼합 조명에 사용



Features

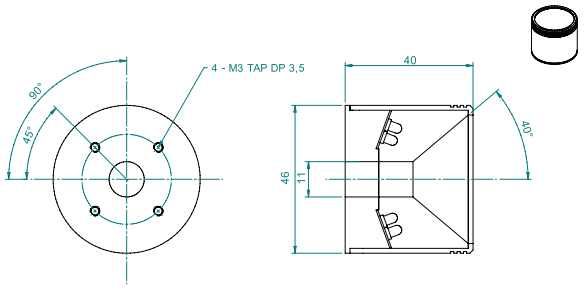
- 곡면에 반사된 빛이 여러각도의 방향성을 가져 그림자가 거의 생기지 않고 대상물 전체를 자세히 볼수있어 무영조명 이라고도 불립니다.
- 돔 조명 내에서 조사되는 확산광이기 때문에 가까운 거리에서 조사하여도 밝기가 균일한 이미지를 얻을 수 있습니다.
- 가장 높은 균일도를 가지고 있으며, 간접광의 경우 부정형 대상 물체에 골고루 부드러운 확산광을 조사할 수 있으므로 표면을 균일한 상태로 만들고 검출 포인트 와의 명암차이가 확실합니다.
- 광택이 있는 금속이나 유리, 요철이 있는 검사 대상물에 효과적 입니다.
- 문자 및 무늬검사, 각종 패키지 검사에 최적 입니다.



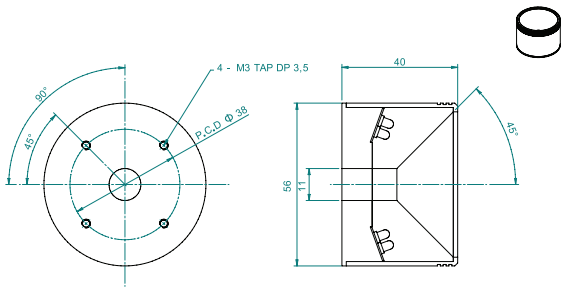
Sample

인쇄 상태 검사

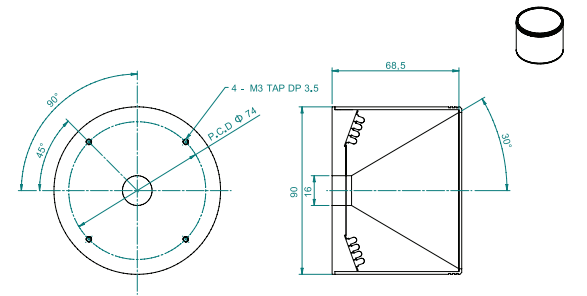
Model Name	MLI-DI-4611							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	41
Power Consumption(W)	13.1	1.2	2.5						



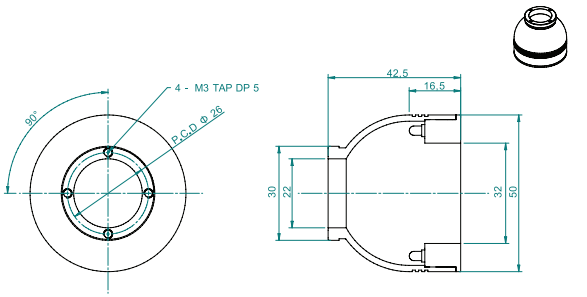
Model Name	MLI-DI-5611							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	60
Power Consumption(W)	19.2	1.8	3.6						



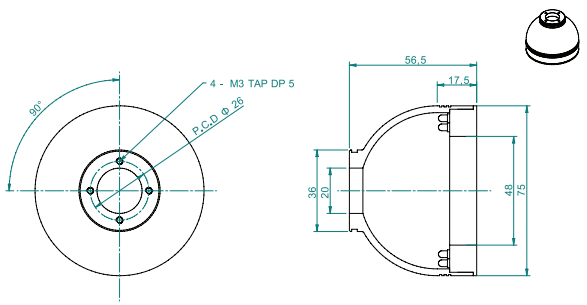
Model Name	MLI-DI-9016							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	204
Power Consumption(W)	65.3	6.1	12.2						



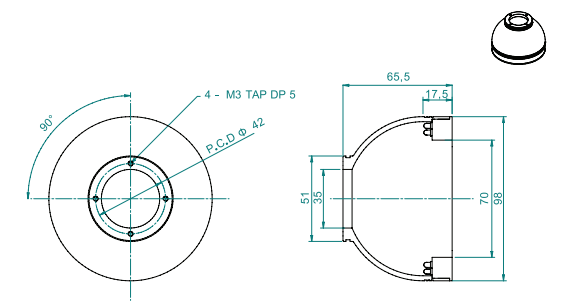
Model Name	MLI-DI-5022							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	30
Power Consumption(W)	9.6	0.9	1.8						



Model Name	MLI-DI-7520							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	90
Power Consumption(W)	28.8	2.7	5.4						

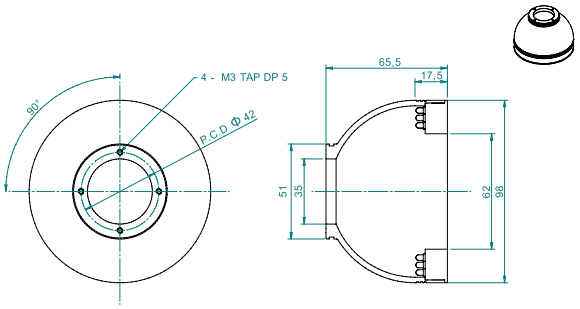


Model Name	MLI-DI-9835							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	126
Power Consumption(W)	40.3	3.8	7.6						

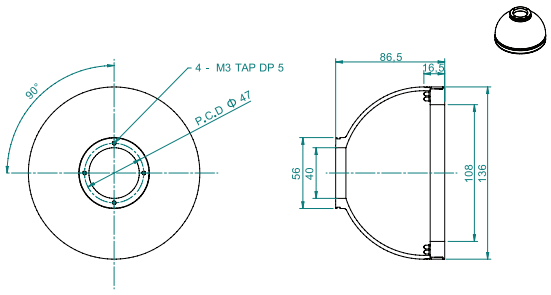


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

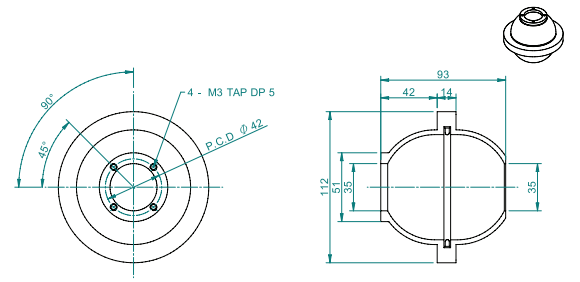
Model Name	MLI-DI-9835-3							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	180
Power Consumption(W)	57.6	5.4	10.8						



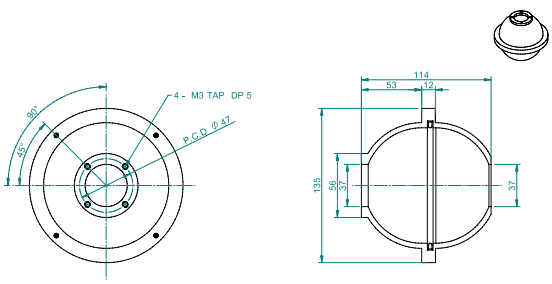
Model Name	MLI-DI-13640							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	186
Power Consumption(W)	59.5	5.6	11.2						



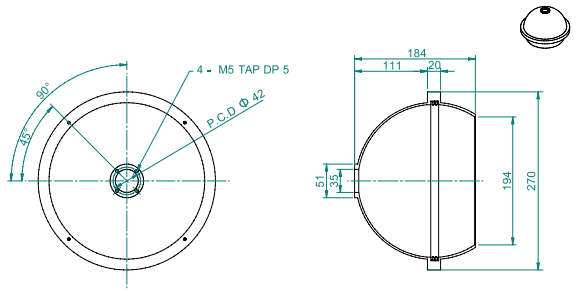
Model Name	MLI-DI-11235							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	66
Power Consumption(W)	21.1	2.0	4.0						



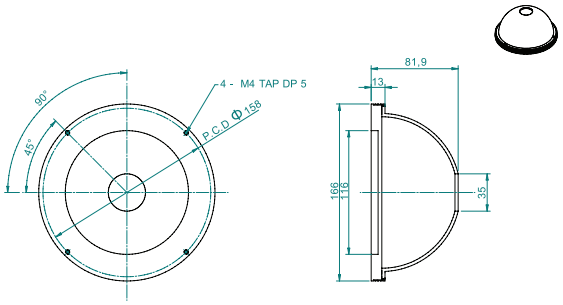
Model Name	MLI-DI-13537							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	84
Power Consumption(W)	26.9	2.5	5.0						



Model Name	MLI-DI-27035							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	360
Power Consumption(W)	115.2	10.8	21.6						

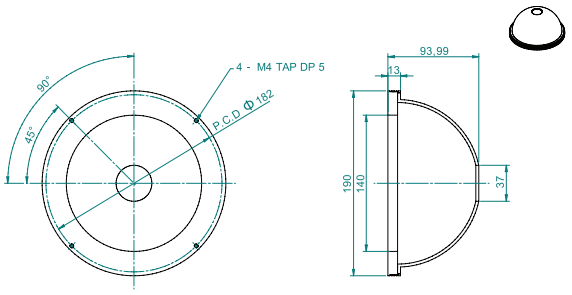


Model Name	MLI-DI-16635							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	42
Power Consumption(W)	13.4	1.3	2.5						

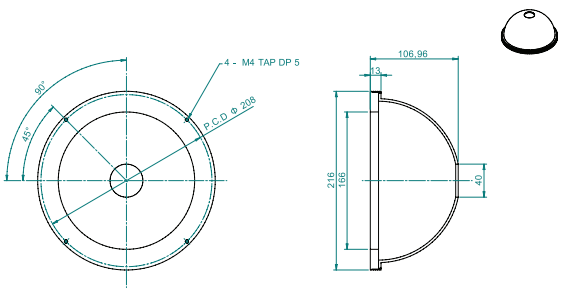


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

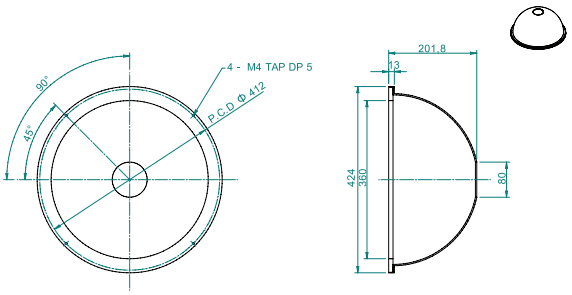
Model Name	MLI-DI-19037							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	60
Power Consumption(W)	19.2	1.8	3.6						



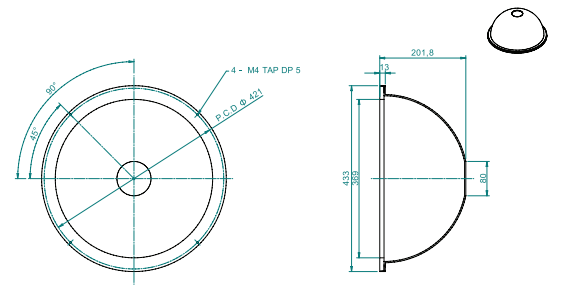
Model Name	MLI-DI-21640							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	30
Power Consumption(W)	9.6	0.9	1.8						



Model Name	MLI-DI-42480							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	54
Power Consumption(W)	17.3	1.6	3.2						



Model Name	MLI-DI-43380							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	54
Power Consumption(W)	17.3	1.6	3.2						

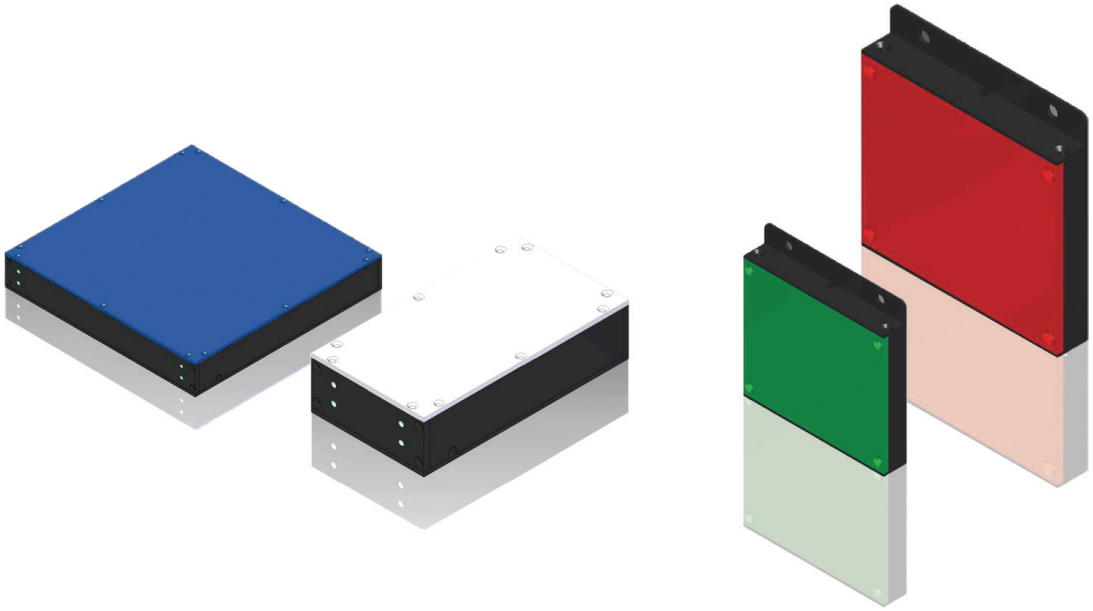


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

Direct Backlight (Chip type)
illumination

Series DBC

고휘도의 광으로 물체를 실루엣으로 검사

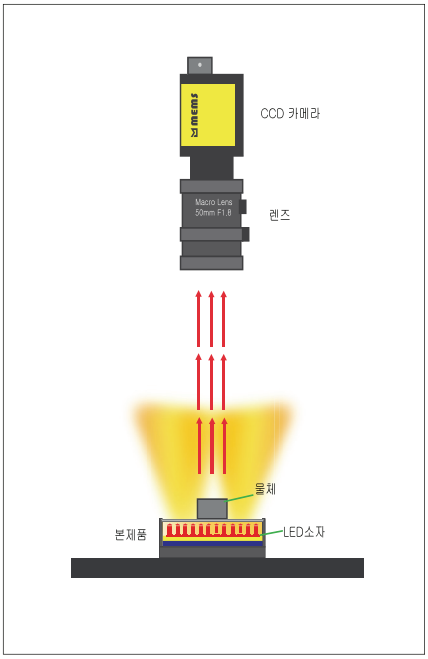


Features

다양한 외관 검사 기능

- 하부로부터 강력한 칩타입의 광원을 조사하여 모델의 외관을 더욱 선명하게 연출할 수 있습니다.
- 다양한 기구적 위치선정을 고려할 수 있도록 심플하면서도 견고한 세팅이 가능합니다.

- 옵션 : 원활한 방열을 위해 팬이 장착 될 수 있습니다.

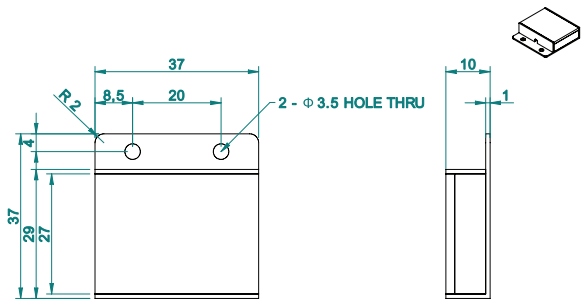


Sample

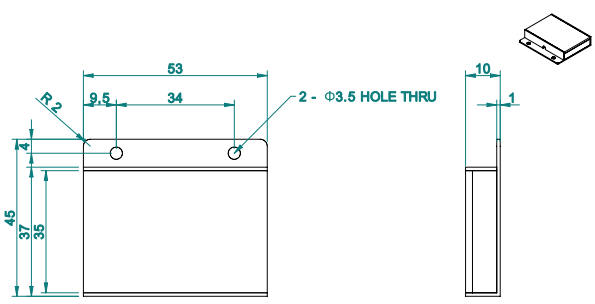
단순한 반사광의 경우

백 라이트 촬영

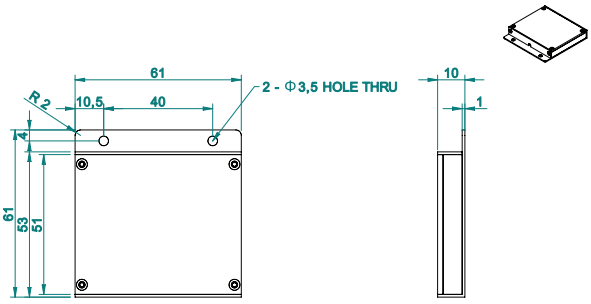
Model Name	MLI-DBC-37							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	30
Power Consumption(W)	9.6	0.9	1.8						



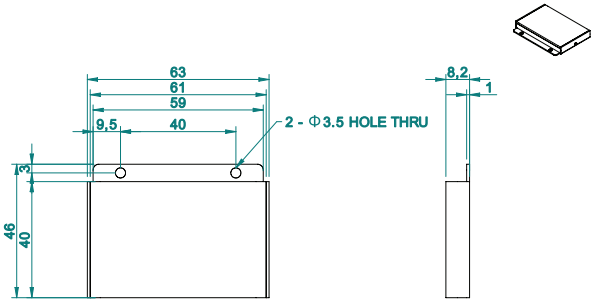
Model Name	MLI-DBC-5345							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	90
Power Consumption(W)	28.8	2.7	5.4						



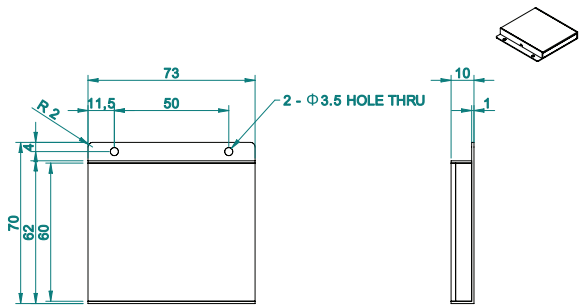
Model Name	MLI-DBC-61							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	132
Power Consumption(W)	42.2	4.0	8.0						



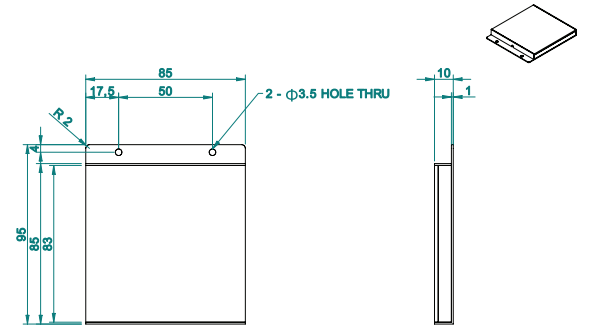
Model Name	MLI-DBC-6346							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	90
Power Consumption(W)	28.8	2.7	5.4						



Model Name	MLI-DBC-7370							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	225
Power Consumption(W)	72.0	6.8	13.5						

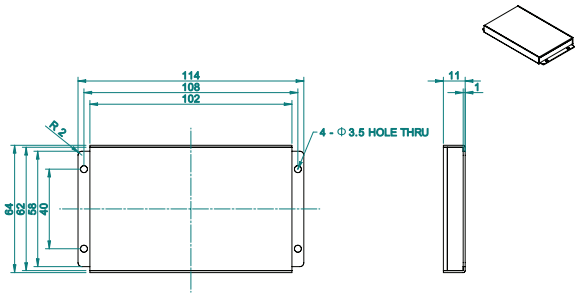


Model Name	MLI-DBC-8595							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	360
Power Consumption(W)	115.2	10.8	21.6						

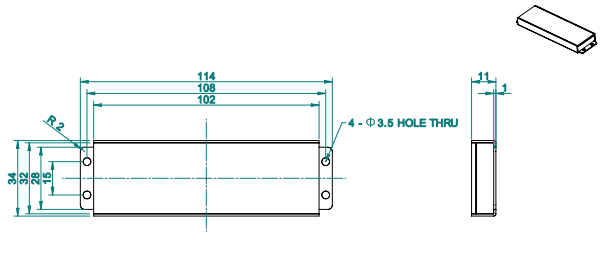


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

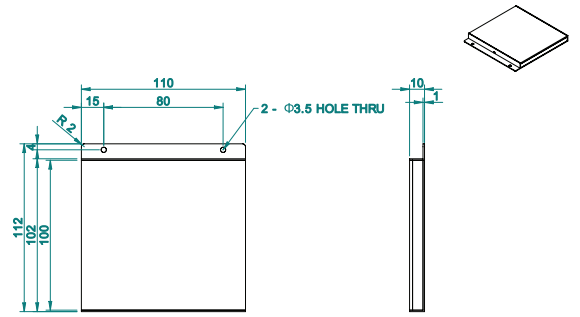
Model Name	MLI-DBC-11464							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	216
Power Consumption(W)	69.1	6.5	13.0						



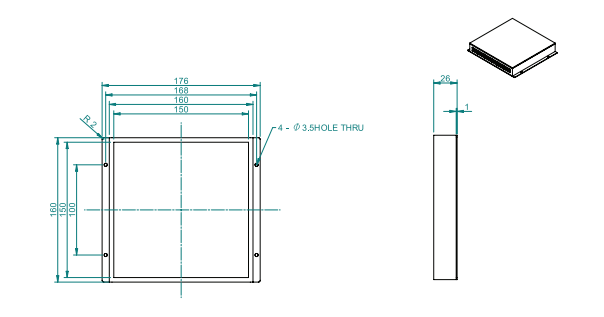
Model Name	MLI-DBC-11434							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	108
Power Consumption(W)	34.6	3.2	6.4						



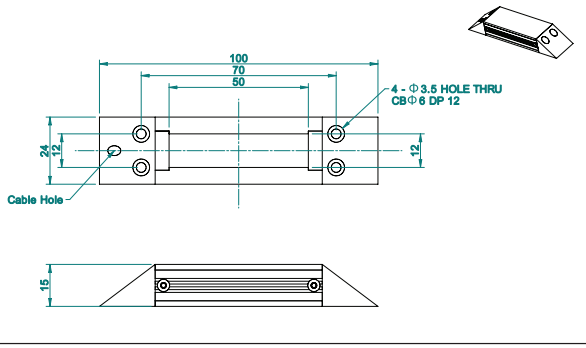
Model Name	MLI-DBC-110112							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	600
Power Consumption(W)	192	18	36						



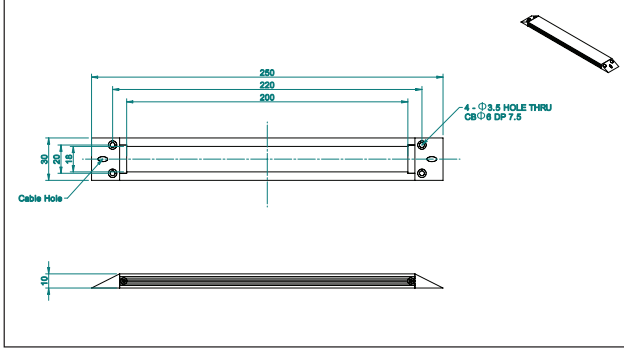
Model Name	MLI-DBC-176160							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	900
Power Consumption(W)	288	27	54						



Model Name	MLI-DBC-10024							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	45
Power Consumption(W)	14.4	1.4	2.8						

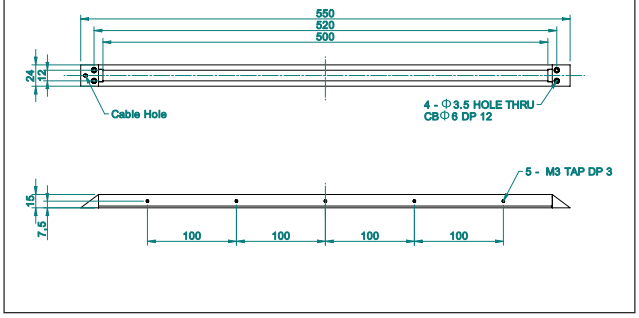


Model Name	MLI-DBC-25030							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	240
Power Consumption(W)	76.8	7.2	14.4						

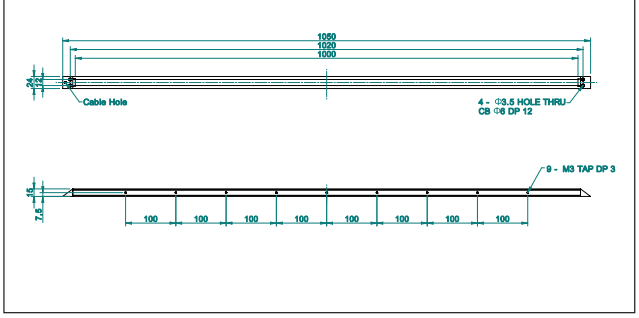


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

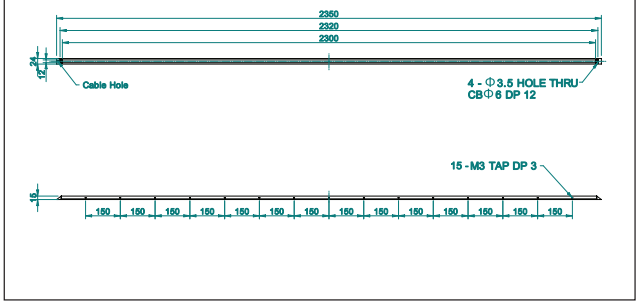
Model Name	MLI-DBC-55024							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	450
Power Consumption(W)	144	13.5	27						



Model Name	MLI-DBC-105024							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	900
Power Consumption(W)	288	27	54						



Model Name	MLI-DBC-235024							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	2070
Power Consumption(W)	662.4	62.1	124.2						



IR : infrared (850nm/940nm)

RD : Red (660~700nm)

SW : Soft White (2,700K)

NW : Natural White (4,000~4,500K)

GR : Green (510nm)

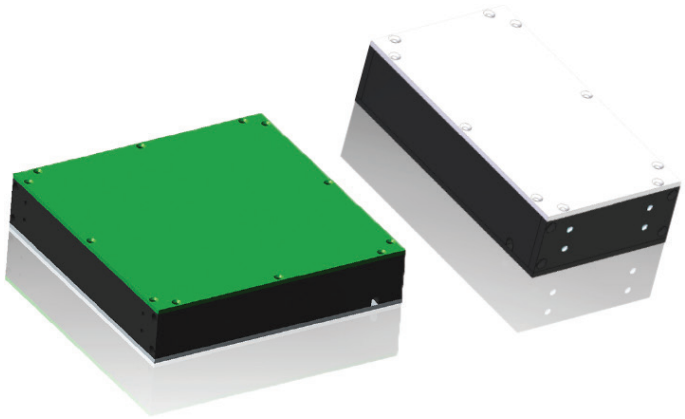
BL : Blue (430~440nm)

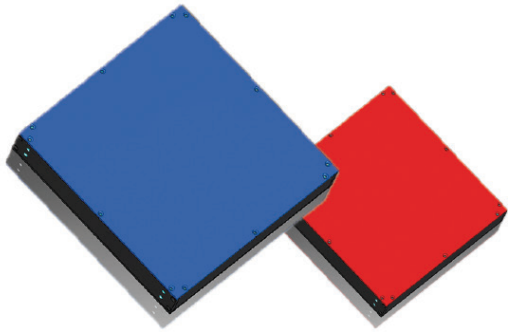
UV : ultraviolet (365nm/380nm)

Direct Backlight (Discrete type) illumination

Series DBD

고휘도의 광으로 물체를 실루엣으로 검사





Features

다양한 외관 검사 기능

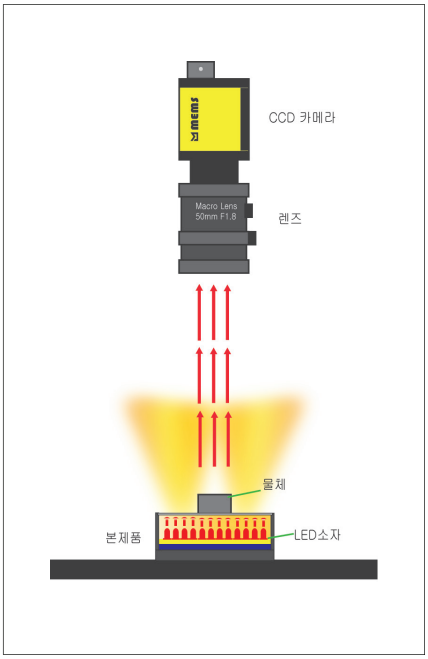
- 하부로부터 고휘도 균일한 조사를 하여 외형을 확실하게 실루엣으로 바꿔 전자부품 등의 형태 검사, 치수측정을 실행 합니다.

고휘도로 높은 균일성

- 초고휘도 LED를 고밀도로 배치해, 선명하면서 밝은영상을 얻을 수 있습니다.

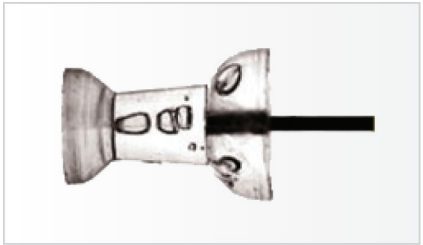
기타 조명과의 복합 사용 가능

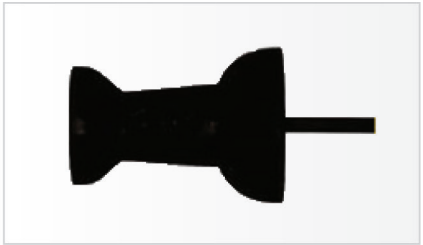
- LED 조명이 고르게 배치되어 밝고 선명한 실루엣을 연출합니다.
- 외곽에 대한 실루엣을 비롯하여 반투명 모델의 내부 엣지에 대해서도 선명한 실루엣을 제공합니다.
- 백 라이트 조명과 상부로 부터 직사 조명을 병합하여 동시 촬상하는 화면이 가능하여 대폭적으로 시간을 단축할 수 있게 되었습니다.



- 옵션 : 원활한 방열을 위해 팬이 장착 될 수 있습니다.

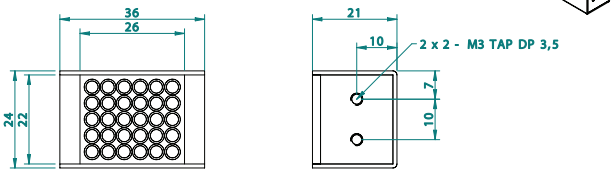
Sample



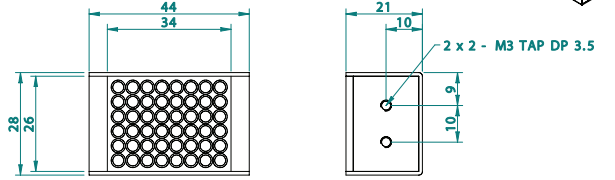


물체의 외곽 검사

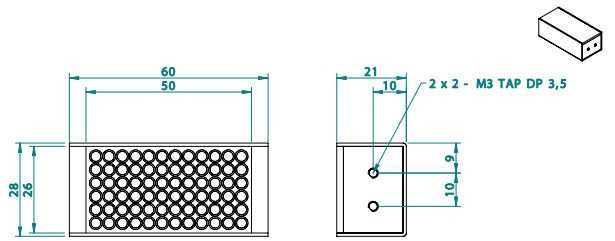
Model Name	MLI-DBD-3624							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	30
Power Consumption(W)	9.6	0.9	1.8						



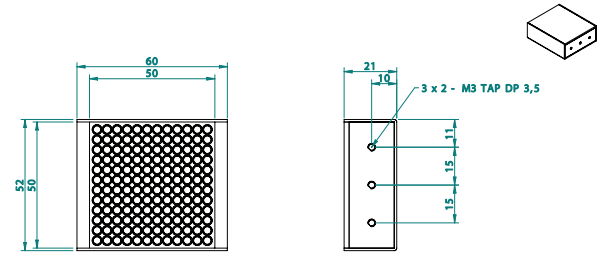
Model Name	MLI-DBD-4428							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	42
Power Consumption(W)	13.4	1.3	2.5						



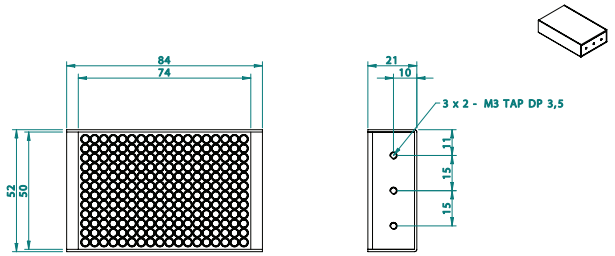
Model Name	MLI-DBD-6028							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	72
Power Consumption(W)	23	2.2	4.4						



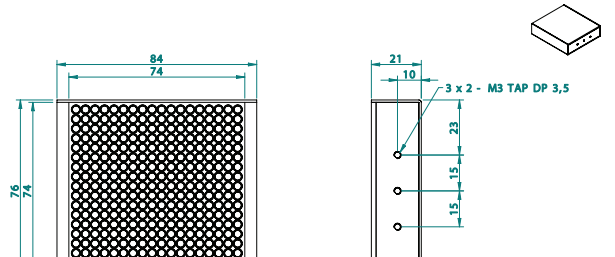
Model Name	MLI-DBD-6052							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	144
Power Consumption(W)	46.1	4.3	8.6						



Model Name	MLI-DBD-8452							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	216
Power Consumption(W)	69.1	6.5	13						

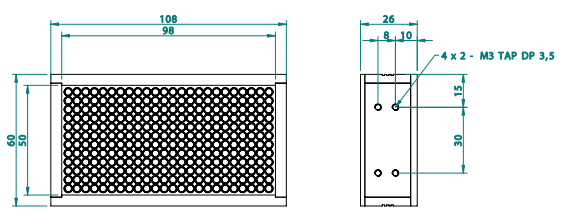


Model Name	MLI-DBD-8476							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	324
Power Consumption(W)	103.7	9.7	19.4						

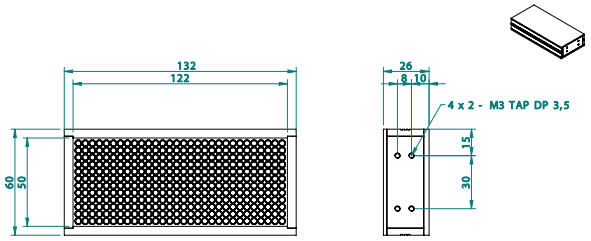


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

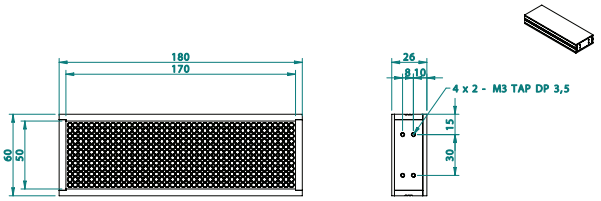
Model Name	MLI-DBD-10860							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	288
Power Consumption(W)	92.2	8.6	17.3						



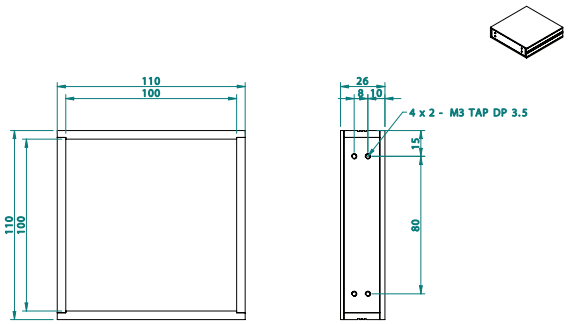
Model Name	MLI-DBD-13260							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	360
Power Consumption(W)	115.2	10.8	21.6						



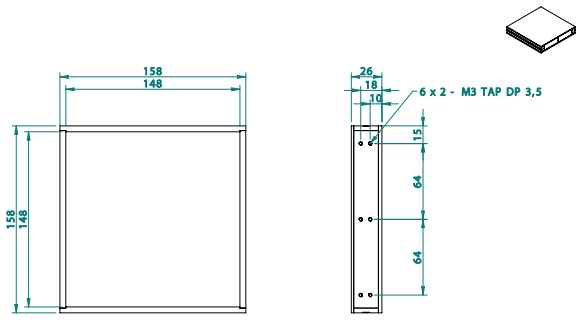
Model Name	MLI-DBD-18060							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	504
Power Consumption(W)	161.3	15.1	30.2						



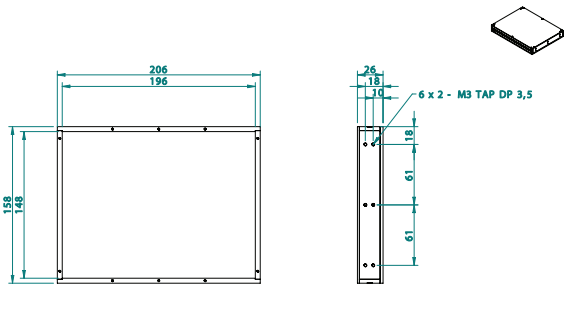
Model Name	MLI-DBD-110							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	144
Power Consumption(W)	46.1	4.3	8.6						



Model Name	MLI-DBD-158							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	324
Power Consumption(W)	103.7	9.7	19.4						

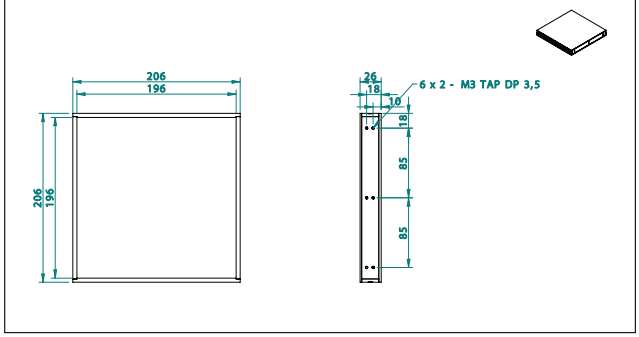


Model Name	MLI-DBD-206158							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	288
Power Consumption(W)	92.2	8.6	17.2						

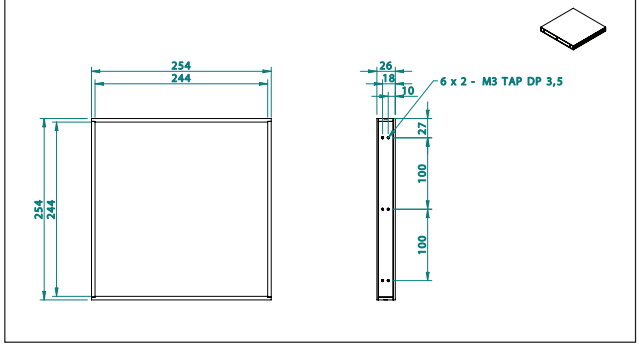


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

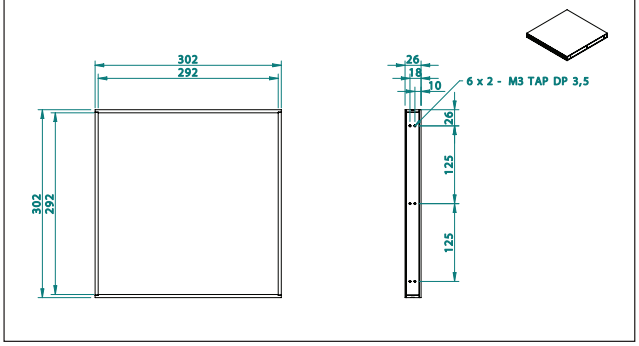
Model Name	MLI-DBD-206							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	576
Power Consumption(W)	184.3	17.3	34.6						



Model Name	MLI-DBD-254							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	900
Power Consumption(W)	288	27	54						



Model Name	MLI-DBD-302							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	1296
Power Consumption(W)	414.7	38.9	77.8						

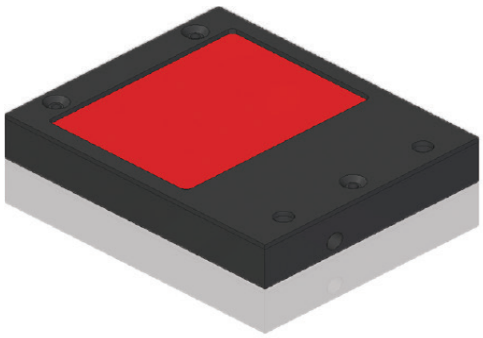


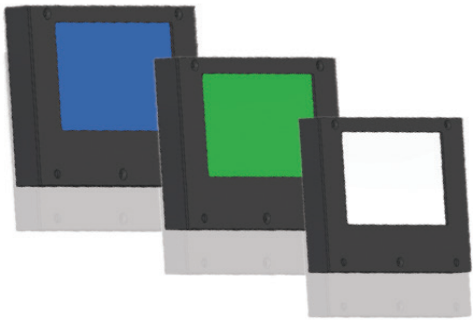
IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

Edge Backlight (Rectangle type) illumination

Series EBI

고휘도의 광으로 물체를 실루엣으로 검사





Features

다양한 외관 검사 기능

- 밝고 고르게 형성된 광원을 더욱 넓은 면적의 제품에 대해 검사가 가능합니다.
- 모델 외곽에 대한 실루엣 뿐만 아니라 내부의 패턴(반도체 등)에 대한 명료한 실루엣을 연출할 수 있습니다.

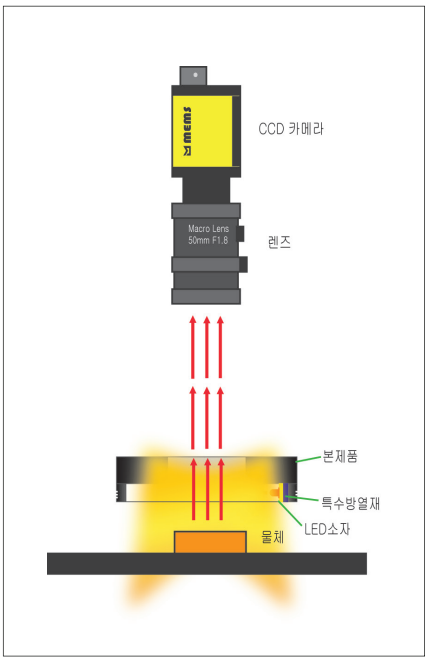
고휘도로 높은 균일성

- 초고휘도 LED를 고밀도로 배치, 고휘도 균일한 빛을 조사할 수 있는 조명입니다.

기타 조명과의 복합 사용 가능

- 고휘도의 백 라이트 광으로 물체의 외형을 확실히 강조할 수 있습니다. 상부로부터의 직사광으로 문자를 촬상 합니다.
- 물체의 표면은 다소 광택이 있으므로 LED가 직접 찍히는 것을 방지하기 위해서 편광판 및 편광 필터를 부착 합니다.
- 백 라이트 조명과 상부로 부터 직사 조명을 병합하여 동시 촬상하는 화면이 가능하여 대폭적으로 시간을 단축할 수 있게 되었습니다.

- 옵션 : 원활한 방열을 위해 팬이 장착 될 수 있습니다.



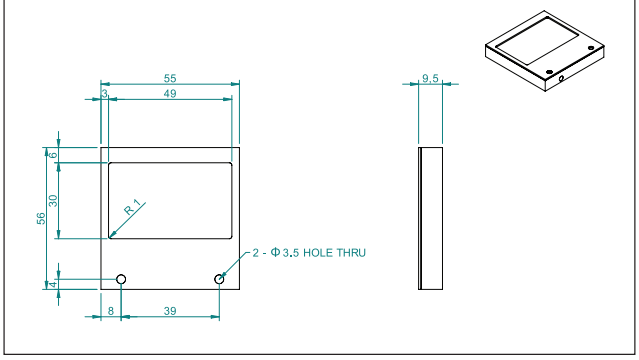
Sample

플라스틱 병 촬영

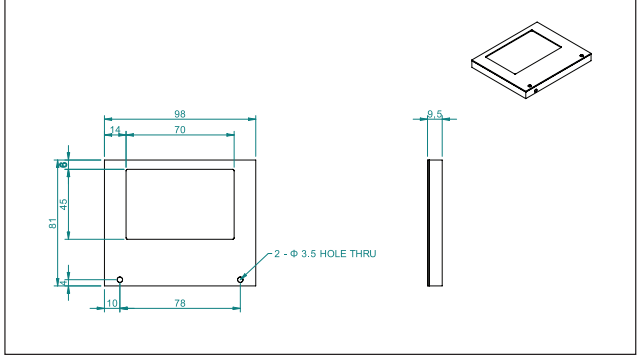
EBI Series

Edge Backlight (Rectangle type) illumination

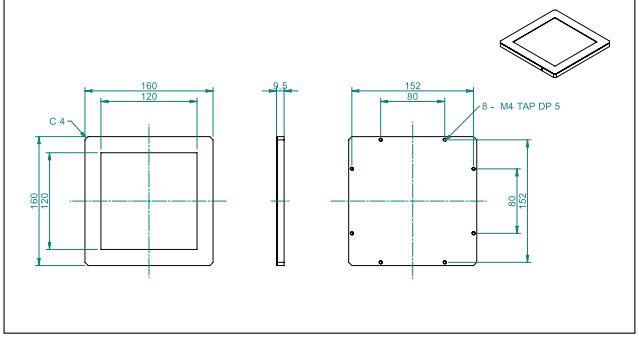
Model Name	MLI-EBI-5556							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	48
Power Consumption(W)	15.4	1.4	2.9						



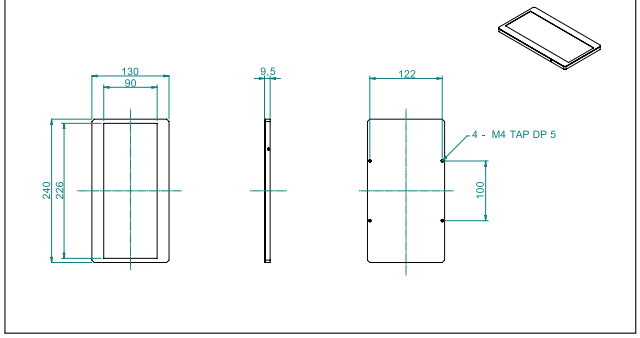
Model Name	MLI-EBI-9881							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	42
Power Consumption(W)	13.4	1.3	2.5						



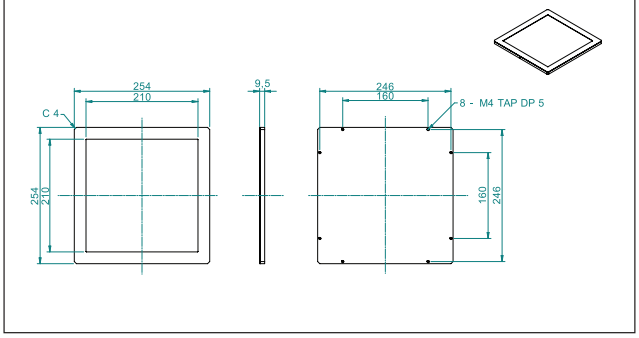
Model Name	MLI-EBI-160							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	120
Power Consumption(W)	38.4	3.6	7.2						



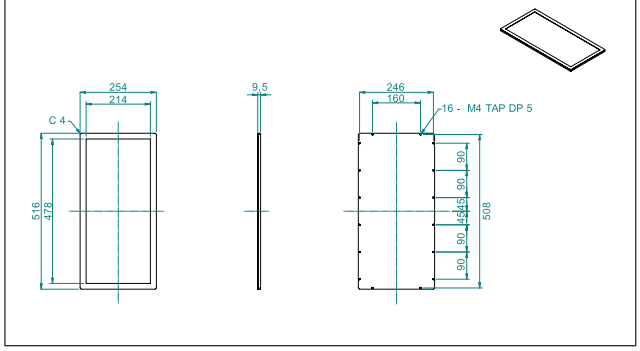
Model Name	MLI-EBI-130240							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	108
Power Consumption(W)	34.6	3.2	6.4						



Model Name	MLI-EBI-254							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	216
Power Consumption(W)	69.1	6.5	13.0						

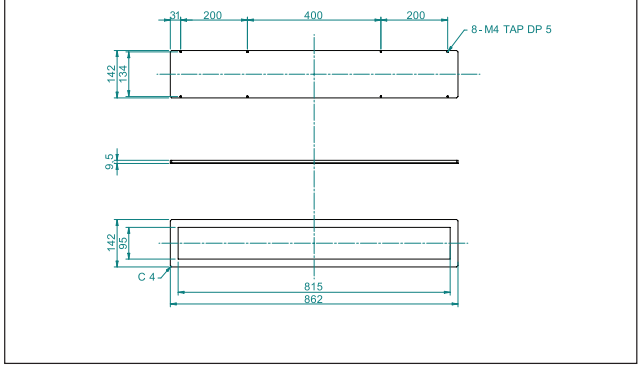


Model Name	MLI-EBI-254516							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	348
Power Consumption(W)	111.4	10.4	20.9						

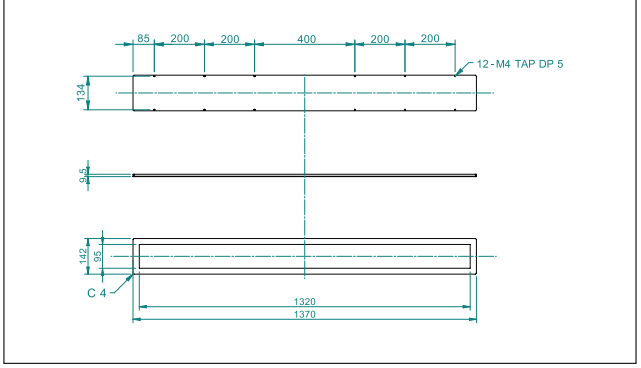


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

Model Name	MLI-EBI-862142							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	456
Power Consumption(W)	145.9	13.7	27.4						



Model Name	MLI-EBI-1370142							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	708
Power Consumption(W)	226.6	21.2	42.5						



IR : infrared (850nm/940nm)

RD : Red (660~700nm)

SW : Soft White (2,700K)

NW : Natural White (4,000~4,500K)

GR : Green (510nm)

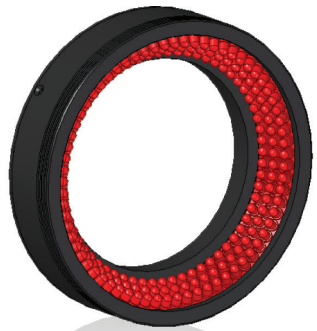
BL : Blue (430~440nm)

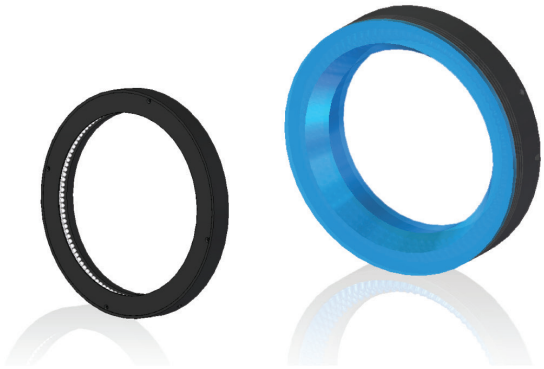
UV : ultraviolet (365nm/380nm)

EHI Series

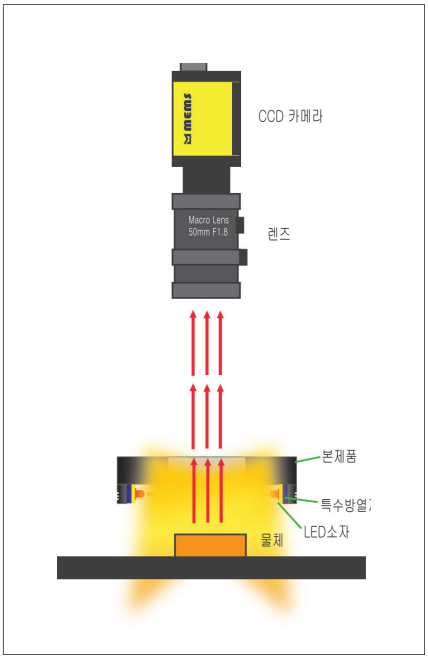
Edge Horizontal illumination

물체의 엣지 추출, 광택 물체의 크랙 검사





Features



360도의 세분화 된 각도에서 나오는 조명으로 광택이 있는 검출체에서도 광이 집중되는 현상이 없으며, 얕은 요철과 흠집등에 최대의 효과를 볼 수 있는 최적의 조명 입니다. 옵션으로는 확산판, 확산링이 부착 가능합니다. 확산판, 확산링을 취부하여 광택이 있는 물체의 촬상시 문제가 되는 난반사와 LED자신이 사진 찍히는 것을 억제할 수 있습니다. 확산성과 균일성의 장점을 갖추고 있지만 빛이 다소 약하여 대상체와의 거리는 가깝게 설정하는 것이 좋습니다.

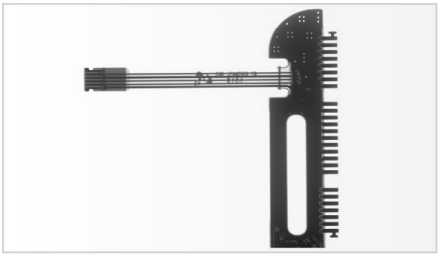
균일한 확산광으로 최적의 촬상이 가능

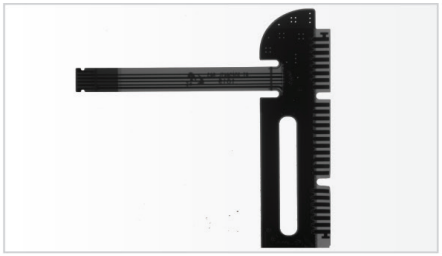
- 동일한 조명에도 물체와 조명과의 거리에 따라 촬상 화상이 변합니다.
- 물체의 표면 상태와 검사 내용을 포함하여 최적의 조명과 조사 방법을 도출하여 화상처리를 할 수 있습니다.

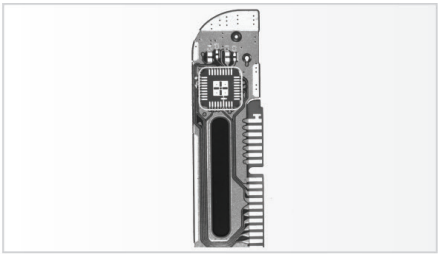
방열 효과가 높은 알루미늄 본체 사용

- MEMS에는 진정한 화상 처리용 LED조명의 외형소재로 알루미늄을 사용함으로써, 열전도성을 높이고 온도 상승을 억제 시킵니다.
- LED조명에 있어서 온도상승은 휘도의 저하와 수명을 줄이는것에 관련있는 큰 문제점이므로 이것을 억제 시키기 위해 알루미늄 몸체를 채택 하고 있습니다.

Sample

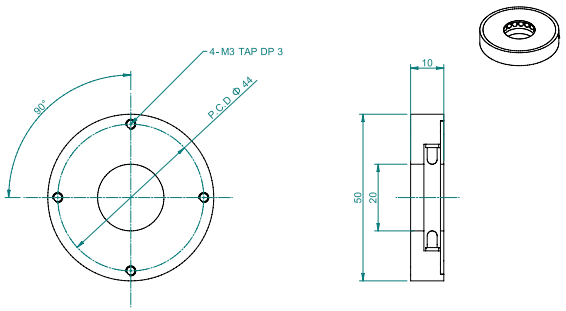




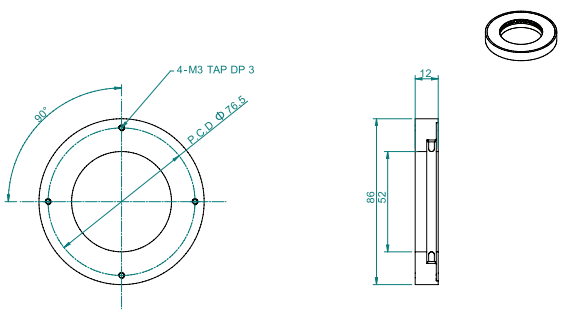


PCB 패턴검사 / 조명 각도의 따른 영상 차이

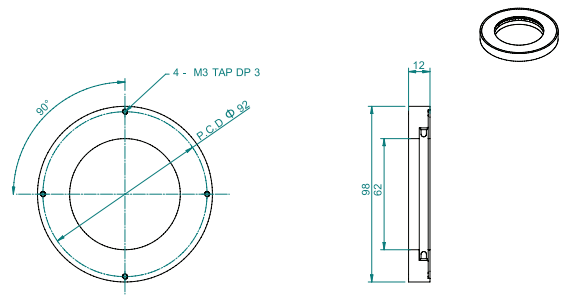
Model Name	MLI-EHI-5020							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	18
Power Consumption(W)	5.8	0.5	1.1						



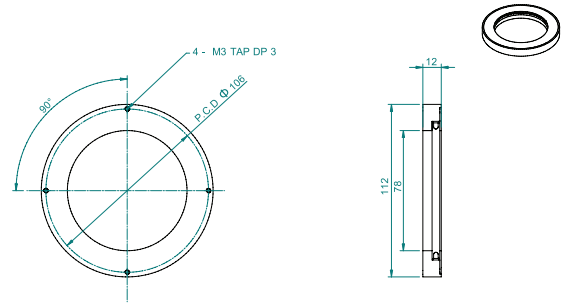
Model Name	MLI-EHI-8652							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	48
Power Consumption(W)	15.4	1.4	2.9						



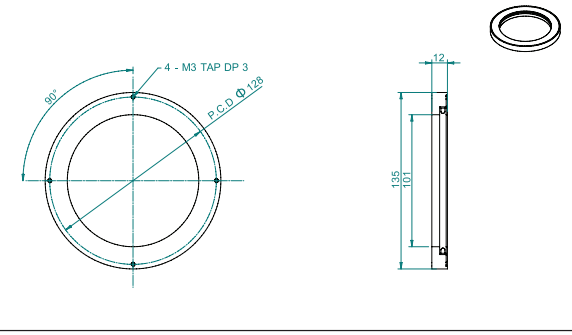
Model Name	MLI-EHI-9862							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	54
Power Consumption(W)	17.3	1.6	3.2						



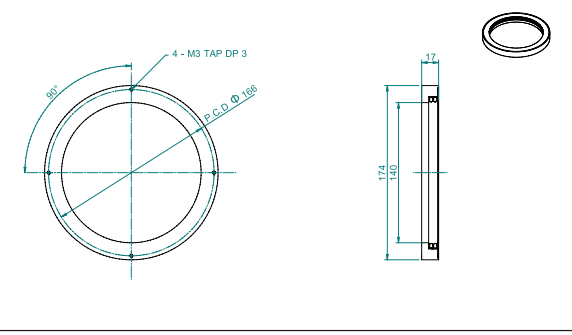
Model Name	MLI-EHI-11278							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	66
Power Consumption(W)	21.1	2.0	4.0						



Model Name	MLI-EHI-135101							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	84
Power Consumption(W)	26.9	2.5	5.0						

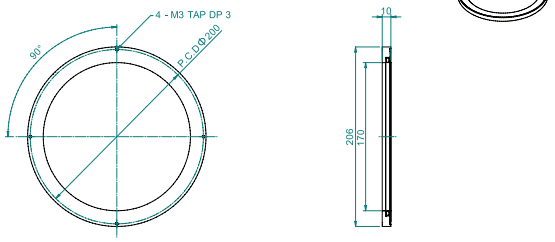


Model Name	MLI-EHI-174140							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	228
Power Consumption(W)	73.0	6.8	13.7						

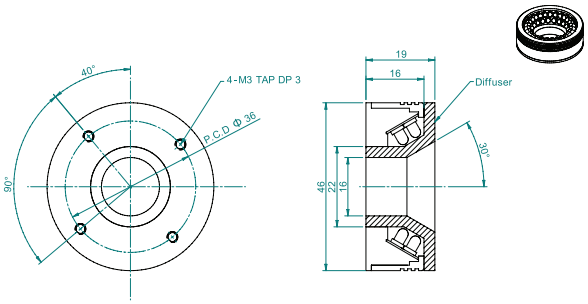


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

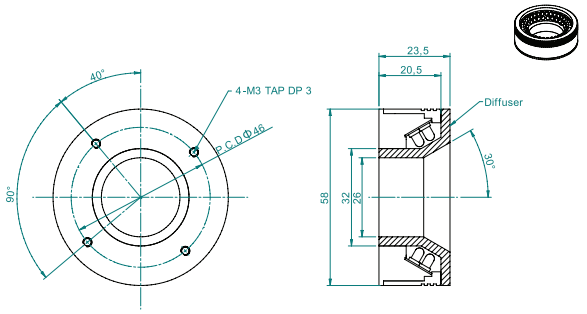
Model Name	MLI-EHI-206170							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	72
Power Consumption(W)	23	14.4	4.32						



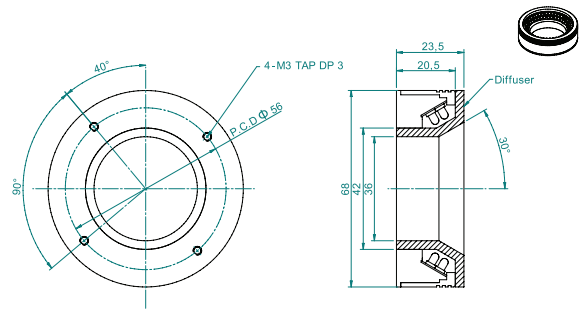
Model Name	MLI-EHI-LA-4622							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	48
Power Consumption(W)	15.4	1.4	2.9						



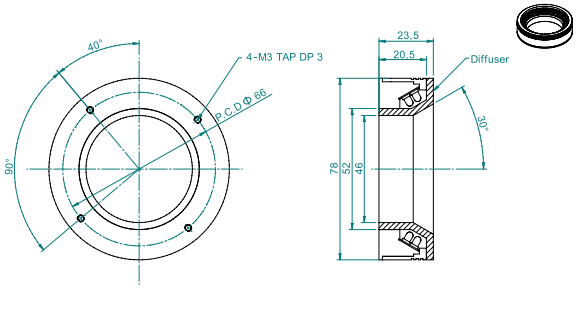
Model Name	MLI-EHI-LA-5832							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	60
Power Consumption(W)	19.2	1.8	3.6						



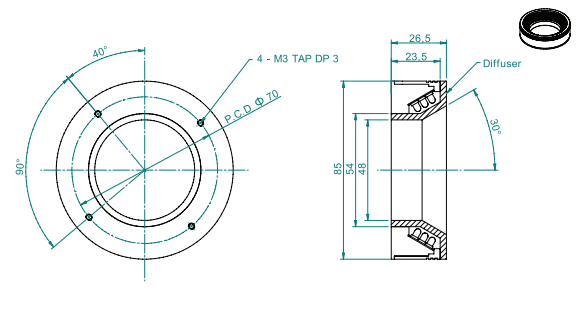
Model Name	MLI-EHI-LA-6842							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	78
Power Consumption(W)	25.0	2.3	4.7						



Model Name	MLI-EHI-LA-7852							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	96
Power Consumption(W)	30.7	2.9	5.8						

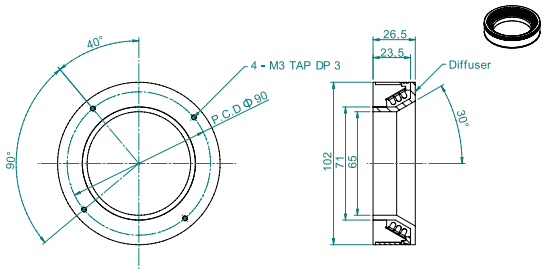


Model Name	MLI-EHI-LA-8554							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	144
Power Consumption(W)	46.1	4.3	8.6						

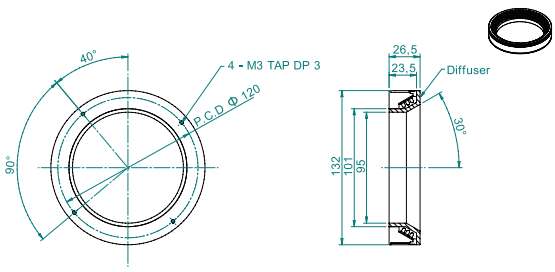


IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

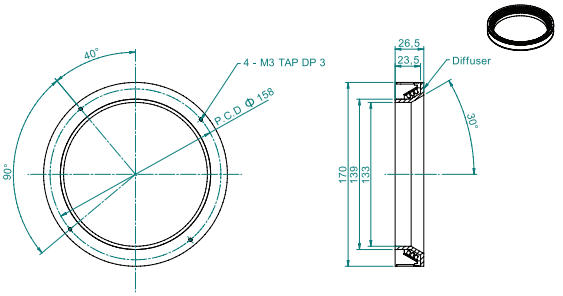
Model Name	MLI-EHI-LA-10271							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	198
Power Consumption(W)	63.4	5.9	11.9						



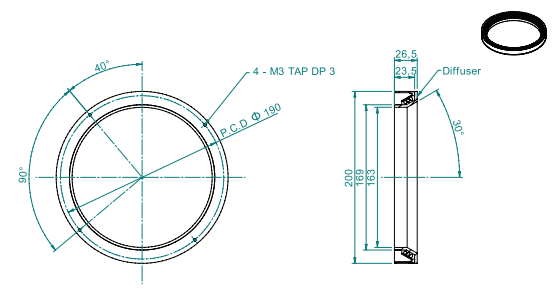
Model Name	MLI-EHI-LA-132101							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	252
Power Consumption(W)	80.6	7.6	15.1						



Model Name	MLI-EHI-LA-170139							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	342
Power Consumption(W)	109.4	10.3	20.5						



Model Name	MLI-EHI-LA-200169							Voltage option	Number of LEDs
Color Option	IR	RD	SW	NW	GR	BL	UV	12V / 24V	414
Power Consumption(W)	132.5	12.4	24.8						



IR : infrared	RD : Red	SW : Soft White	NW : Natural White	GR : Green	BL : Blue	UV : ultraviolet
(850nm/940nm)	(660~700nm)	(2,700K)	(4,000~4,500K)	(510nm)	(430~440nm)	(365nm/380nm)

Power Source

LED
Controllers For Light Source®

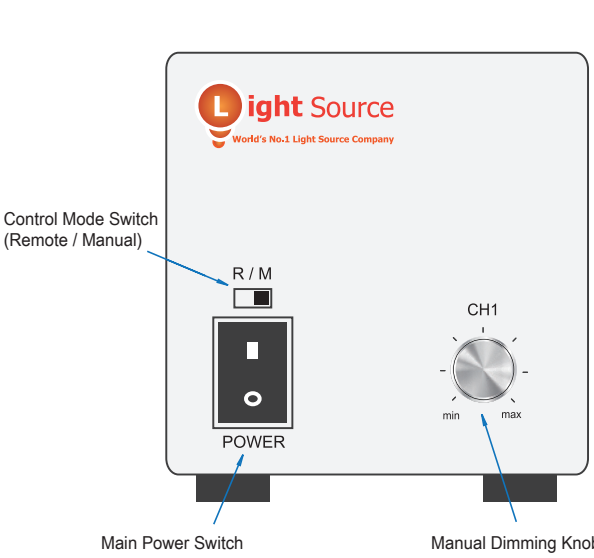
MLC-PSC-1XX / MLC-PSC-2XX / MLC-PSC-4XX

Main Applications

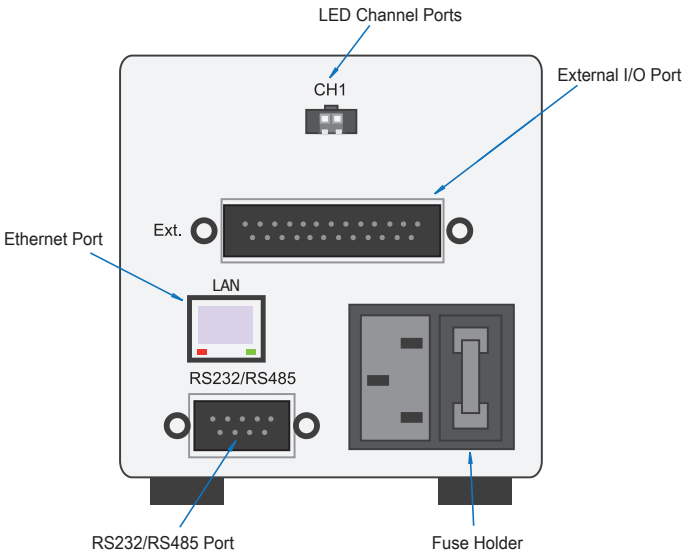
- Light Source for LED illumination

Appearance

MLC-PSC-1XX



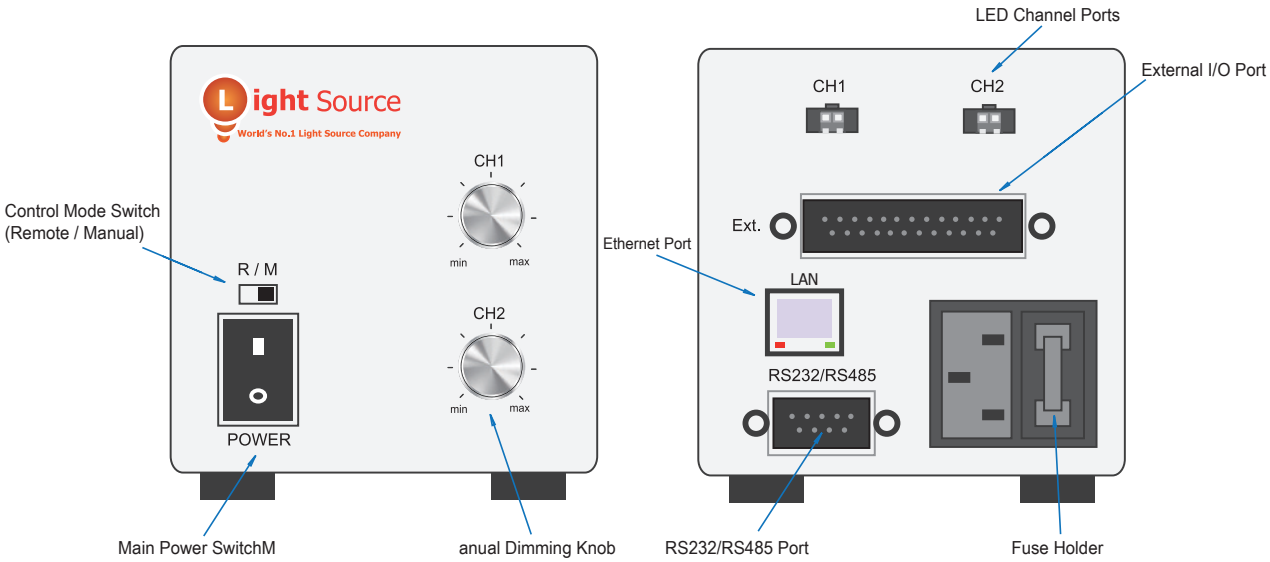
[Front Panel]



[Back Panel]

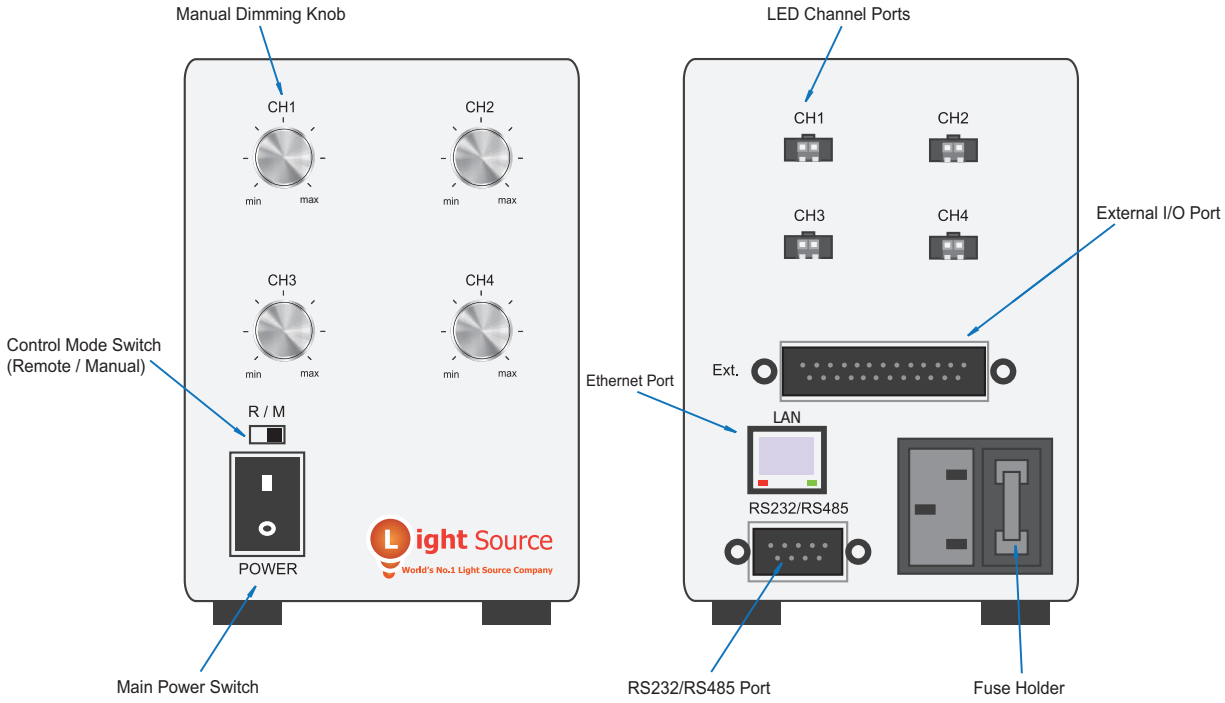
MLC-PSC-1XX / MLC-PSC-2XX / MLC-PSC-4XX

MLC-PSC-2XX



[Front Panel] **[Back Panel]**

MLC-PSC-4XX



[Front Panel] **[Back Panel]**

Specifications

MODEL	MLC-PSC-1XX	MLC-PSC-2XX	MLC-PSC-4XX
Power consumption	65W (upper to higher)		
Input voltage	AC 100 - 240V 50/60 Hz		
Input current	1.6 A (at 100Vac) / 0.7 A (at 240Vac)		
Inrush input	Cold start, 60A at 230VAC		
Output channel	1	2	4
Output control method	PWM switching type (84 KHz)		
Illuminance control	Manual : Manual dimming knob 10bit digital signal control Serial communication Control (RS-232 / RS-485) USB Control		
Cooling method	Natural cooling by air		
Installation method	rubber legs placed on flat surface		
Dimensions	225(W) mm x 117.2(H) mm x 82.4(D) mm	225(W) mm x 117.2(H) mm × 82.4(D)	225(W) mm x 117.2(H) mm × 82.4(D)
Weight	Approximately 984kg	Approximately 1,015kg	Approximately 1,175kg

*XX: OutPut Voltage Level

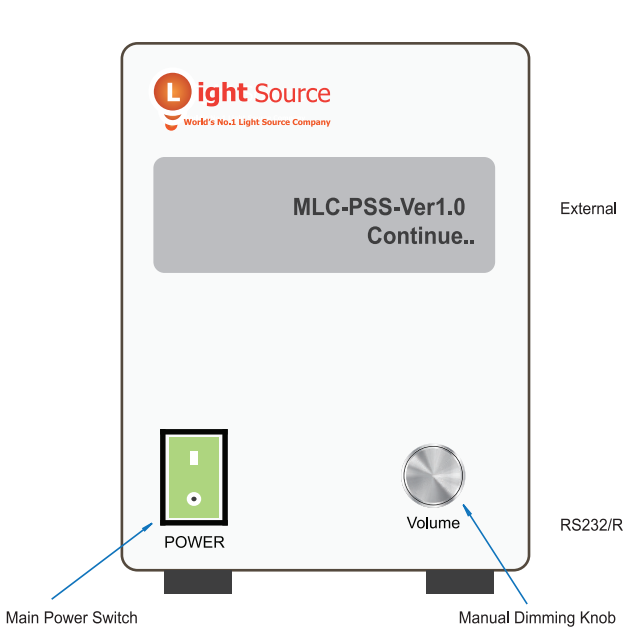
Power Source

MLC-PSS-1XX / MLC-PSS-2XX / MLC-PSS-4XX

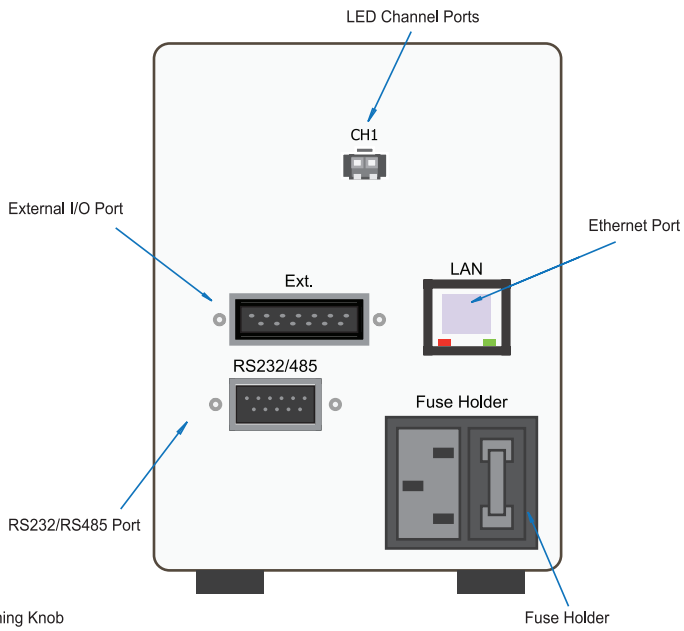
Product Feature

- Light Source for LED illumination

Appearance



[Front Panel]



[Back Panel]

Power Source

LED Strobe
Controllers For Light Source®

Specifications

MODEL		MLC-PSS-1XX	MLC-PSS-2XX	MLC-PSS-4XX
Power consumption		150W (upper to higher)		
Input voltage		AC 90 - 264V 50/60 Hz / DC 127~370V		
Input current		1.8 A (at 115Vac) / 1.0 A (at 230Vac)		
Inrush input		Cold start, 70A at 230VAC		
Output channel		1	2	4
Output Voltage		24V / 48V DC		
Intensity Control	Mode	Strobe Time : 10uS ~ 1.0mS		
	Manual	LCD Control		
	UART	9600bps / 115200bps (Data : 8, Parity : None, Stop : 1)		
	Ethernet	TCP / Http		
Cooling method		Natural cooling by air		
Installation method		Rubber legs placed on flat surface		
Dimensions		225(W) mm x 117.2(H) mm× 82.4(D)		

*XX: OutPut Voltage Level

Power Source

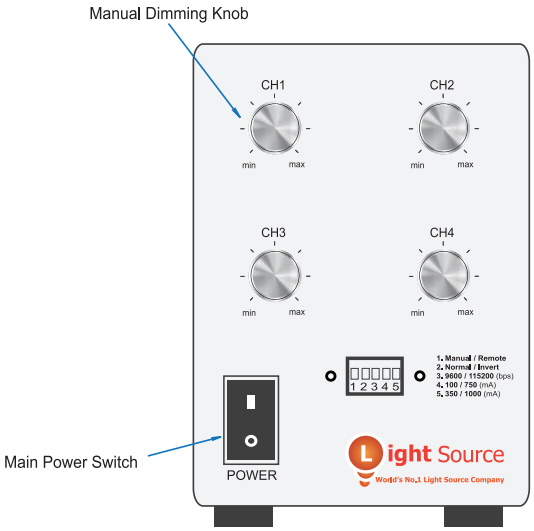
MLC-PSCI-4

Product Feature

- Light Source for LED Coaxial illumination
- With the constant current control, the light intensity can be adjusted to 100mA, 350mA, 700mA, 1A, and upper to higher.
- The current volume can be adjusted in 1024 levels.
- Manual Dimming, UART, External I/O and Ethernet Setting are available.

Appearance

MLC-PSCI-4



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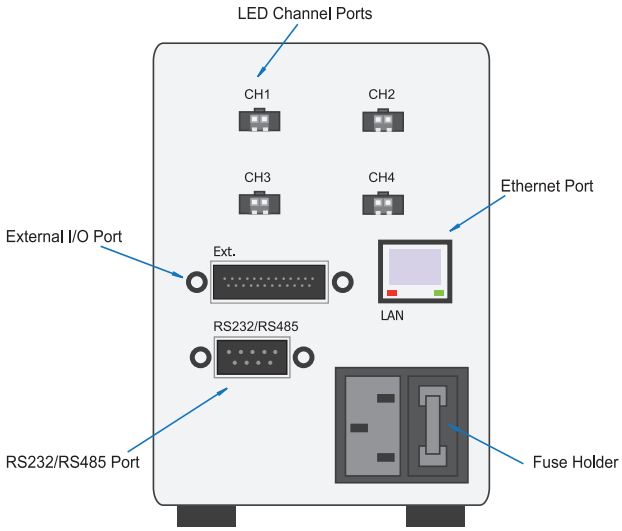


[Back Panel]

Specifications

MODEL	MLC-PSCI-4
Power consumption	35W
Input voltage	AC 100 - 240V 50/60 Hz
Input current	1.8 A (at 100Vac) / 1.0 A (at 240Vac)
Inrush input	Cold start, 60A at 230VAC
Output channel	4
Output control method	Constant current control (100mA, 350mA, 700mA, 1A.)
Illuminance control	Manual : Manual dimming knob 10bit digital signal control Serial communication Control (RS-232 / RS-485) Ethernet Control
Cooling method	Natural cooling by air
Installation method	rubber legs placed on flat surface
Dimensions	225(W) mm x 117.2(H) mm × 82.4(D)
Weight	Approximately 1,162kg

Power Source

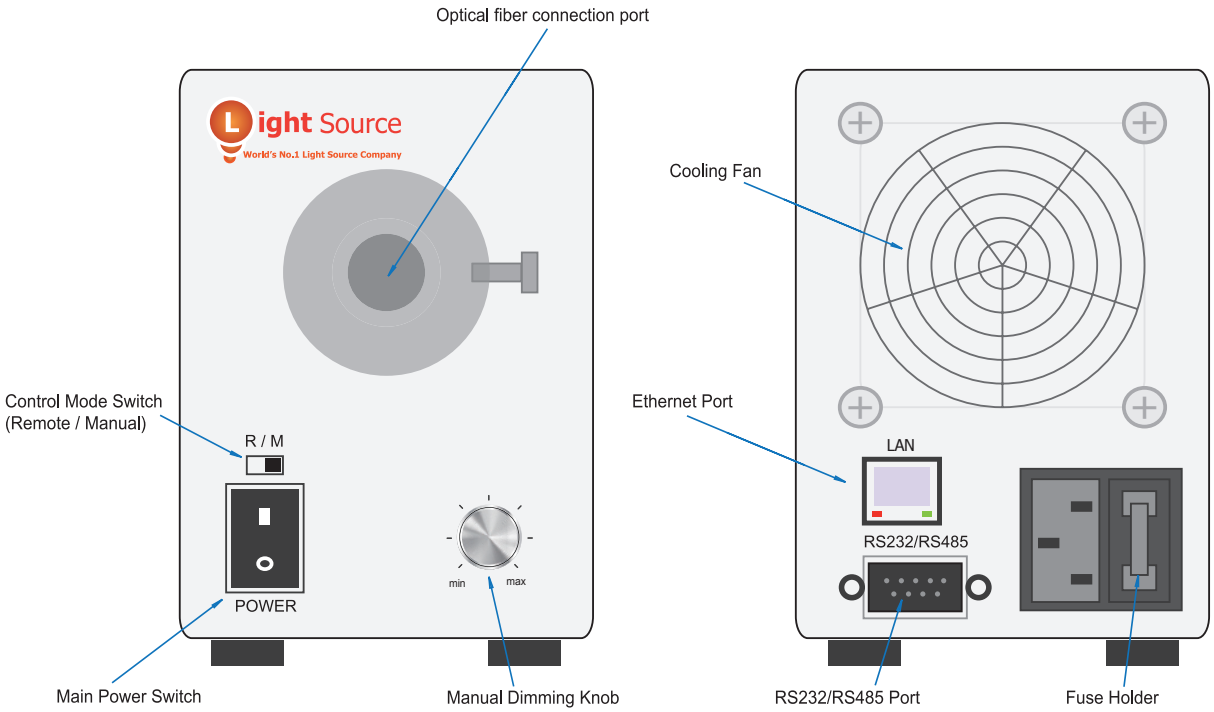
MLC-PSH-100W / MLC-PSH-150W

Main Applications

- Light Source for optical fiber illumination

Appearance

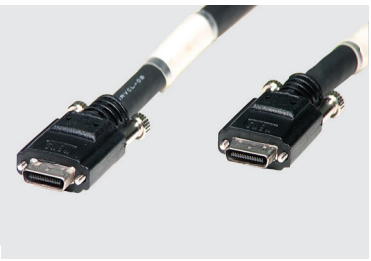
Light Guide Image

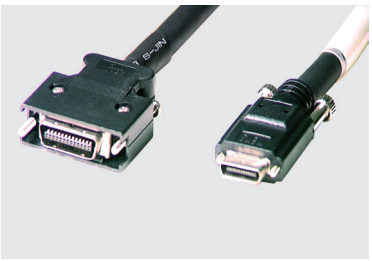


[Front Panel] **[Back Panel]**

Specifications

MODEL	MLC-PSH-100W	MLC-PSH-150W
Lamp type	Halogen lamp with dichroic reflector	
Lamp model	OSRAM 64637 (12V 100W)	OSRAM 64620 (15V 150W)
Circuit method	PWM switching type	
Rated input voltage	Universal AC/DC Converter, 90 - 264 VAC at 47 - 63 Hz	
Input current	1.6 A (at 100Vac) / 0.7 A (at 240Vac)	2.2 A (at 100Vac) / 1.0 A (at 240Vac)
Rush current	Less than 12A (Input Voltage: 100Vac, air temp. 25°C, cold start)	
Environmental conditions	Temperature: 5 to 40°C / Humidity: 20 to 80%Installation	
Lamp voltage(standard)	11.7Vdc ±0.2V (maximum)	14.7Vdc ±0.2V (maximum)
Average lamp life	Nomal 1500 H (12.0Vdc)	Nomal 500 H (15.0Vdc)
Color temperature	Approx 3000 K	Approx 3270 K
Illuminance control	Manual : Manual dimming knob 10bit digital signal control Serial communications commands (RS-232C)	
Protection function	Output cutoff: Overload detector Input cutoff: Overload detector, internal fuse	
Cooling method	Forcible cooling by fan (forced air cooling)	
Installation method	Install horizontally on the rubber feet at the bottom of the unit	
Attachable light guide	Fiber OF Ø6 to 14/ Ferrule size selectable	
Dimensions	225(W) mm x 117.2(H) mm × 82.4(D) mm	
Weight	Approximately 1,572kg	





Camera Link Cable

Mini Camera Link is Camera Link, Which is an interface standard for FA digital video cameras, using the SDR26P connector. The PoCL version includes additional power line to supply power to a camera.

Usage & Features

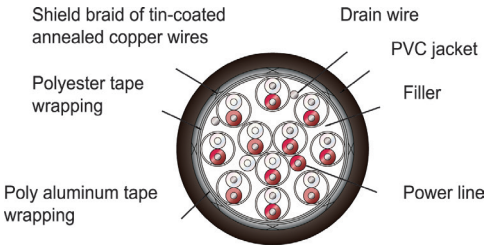
Connecting a digital video camera using the Mini Camera Link interface to a frame grabber

- The flex resistant / high sliding, which compiles with the Camera Link specification, Supports medium / full configurations (when using two cables).*1
- Signal lines are designed with manufacturing technology developed through the manufacturing of high-speed transmission cables for semiconductor production devices, to offer advanced accuracy in external diameter and relative permittivity.
- Thorough quality control achieves low skew performance and stable attenuation.
- The connectors are molded in either the straight or right angle type, with extension cables also available. *2
- These cables are UL compliant and have cleared the VW-1 test for flame resistance.
- These cables are RoHS Directive compliant.

Structure and performance

For moving parts

Item	Flex resistant / high sliding	Flex resistant / high sliding PoCL
Signal conductor size (AWG)	28AWG	28AWG x 2C
External jacket diameter (mm)	9.0 (Max 9.5)	
Voltage / temperature rating	30V / 80°C	
Characteristic impedance (Ω)	100±10	
Within-pair skew (ps/m)	No more than 50	
Pair-to-Pair skew (ps/m)	No more than 50	
Transmission distance (m) *3	No more than 10	
Flame resistance	VW-1	



The structure of theresistant / high sliding (PoCL) cables

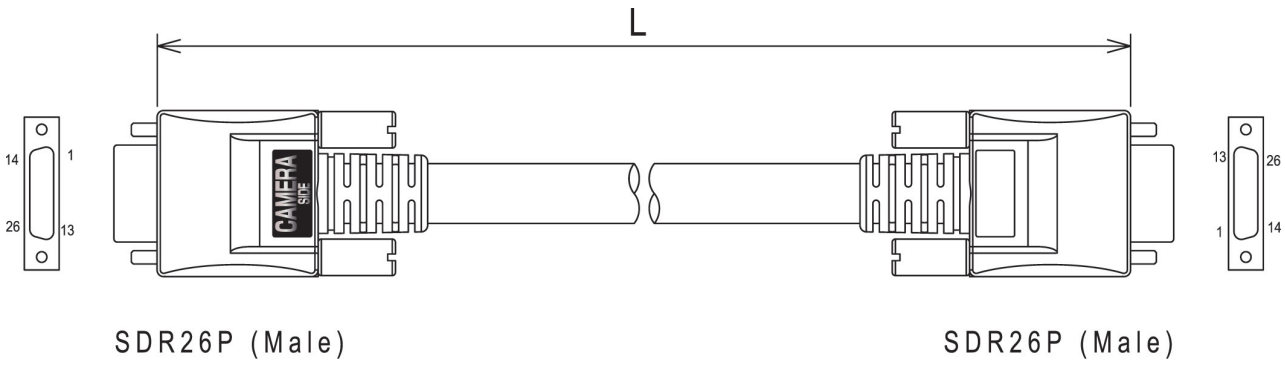
*1 Different from the structure defined in the Camera Link specification

*2 The Camera Link specifications stipulate the cable length to be the maximum of 10 meters. Transmission distance when an extension cable is used varies according to the performance of the camera and frame grabber involved. Please check their performance in advance when using an extension cable.

*3 The transmission distance shown is a norminal value at a clock frequency of 85MHz. It is not a guaranteed value as it may be affected by camera and frame grabber performance.

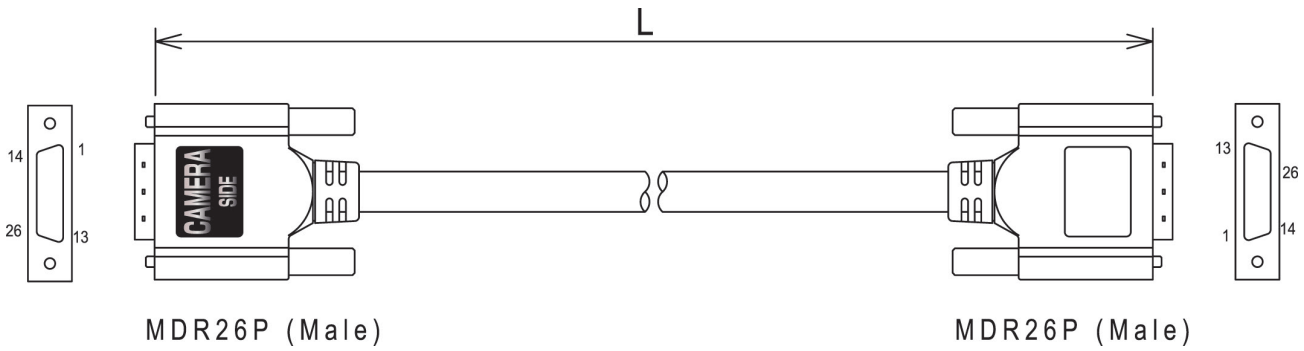
External appearance / Examples of products in the Mini Camera Link Cable Assembly line up

- SDR26P Male (Straight) - SDR26P Male (Straight)



External appearance / Examples of products in the Camera Link Cable Assembly line up

- MDR26P Male (Straight) - MDR26P Male (Straight)



IEEE1394.b

IEEE1394.b Cable

IEEE1394 is a serial bus standard for high-speed communication between audio / video devices and computers. It is a standardized form of the FireWire ™ standard, developed and advocated by a U.S computer manufacturer. It offers broad and can be connected to a built-in IEEE1394 terminal on computers.

Usage & Features

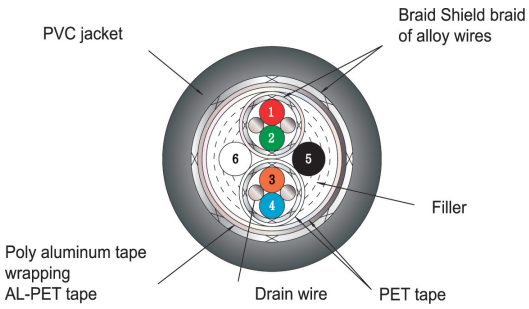
Connecting a digital divices such as digital still cameras and digital video cameras In FA applications, connecting a camera for image input in industrial machinery to a PC

- IEEE1394 supports Plug & Play for easy connection between a digital video camera and PC.
- It offers up to 800Mbps of data transmission (with the maximum transmission distance of 4.5m).
- These cables consist of signal lines and power lines to feed power to the connected camera.
- The cables use the 9-pin lock screw connector.
- The screw lock mechanism prevents excessive tightening to maintain a firm fit.
- These cables are UL compliant and have cleared the VW-1 test for flame resistance.
- These cables are RoHS Directive compliant.

Structure and performance

For moving parts

Item	Flex resistant / high sliding type *1
Signal conductor size (AWG)	28AWG
External jacket diameter (mm)	6.90 (Max 7.30)
Voltage / temperature rating	30V / 80°C
Characteristic impedance D-TDR	110±6
Skew D-TDR (ps/4.5m)	No more than 130
Standard attenuation 1 GHz (ps/4.5m)	No more than 5.50
Transmission distance (m)	No more than 4.5
Flame resistance	VW-1

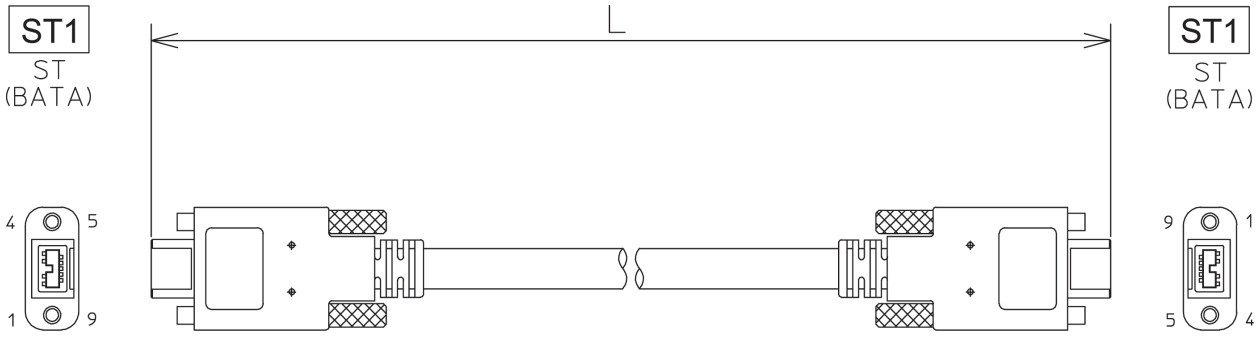


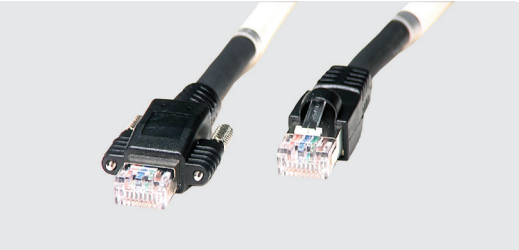
The structure of the flex resistant / high sliding type cable

NO.	Color	NO.	Color
1	Red	4	Blue
2	Green	5	Black
3	Orange	6	White

External appearance / Examples of products in the IEEE1394b Cable Assembly line up

9P Male (Straight) - 9P Male(Straight)





Gigabit Ethernet Cable

GigE Vision™ is an interface standard for machine visions, introduced by the Automated Imaging Association (AIA). using Gigabit Ethernet for high-speed transmission of camera images. This category offers a full lineup of cables and plugs with noiseproof and sliding-resistant properties, suitable for FA environment.

Usage & Features

Connecting network cameras FA devices to PC

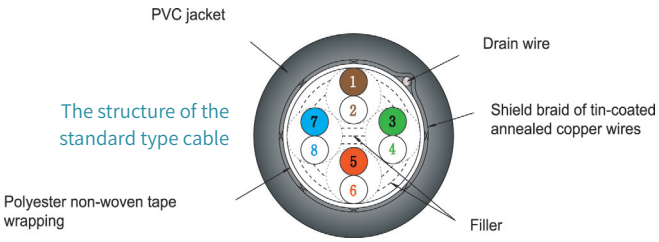
- Supporting high-speed transmission of camera data for FA (GigE Vision™)
- Using a jacket material with excellent oil resistance
- Designed for mechanical strengths such as flex resistance, sliding resistance and twist resistance.
- The lineup includes a range of plug formats that users can select according to the space for camera installation.
- These cables are UL compliant and have cleared the VW-1 test for flame resistance.
- These cables are RoHS Directive compliant.
- Please contact us for custom options.

Structure and performance

Item		Standard cable
Signal conductor size (AWG)		26AWG (30/0.08 annealed copper wire)
External jacket diameter (mm)		6.70 (Max 7.0)
Voltage / temperature rating		30V / 80°C
Characteristic impedance	1-100MHz	100±15
Propagation delay (ps/m)	1-100MHz	No more than 555
Within-pair skew (ps/m)	1-100MHz	No more than 50
Attenuation (dB / 40m)	1MHz	No more than 2.0
	16MHz	No more than 8.2
	100MHz	No more than 22.0
Near-end crosstalk (dB / 40m)	1MHz	No more than 65.3
	16MHz	No more than 47.3
	100MHz	No more than 35.3
Transmission distance (m) *3		No more than 40
Flame resistance		VW-1

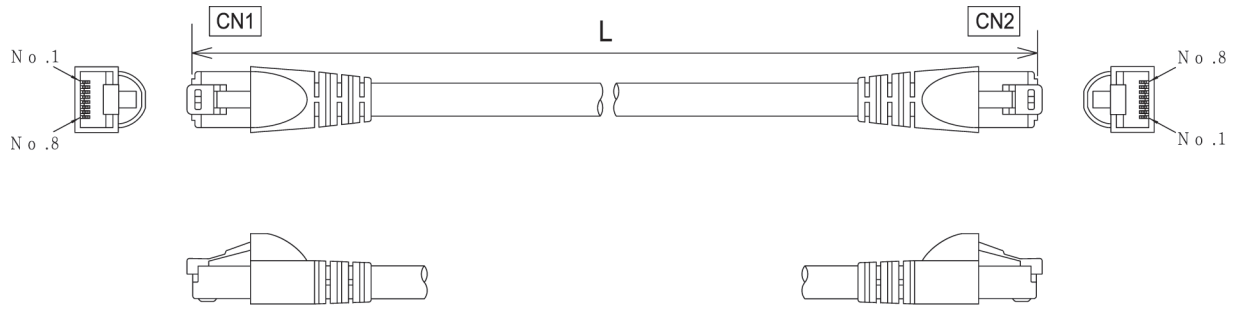
NO.	Color	NO.	Color
1	Brown	5	Orange
2	White “ Brown ”	6	White “ Orange ”
3	Green	7	Blue
4	White “ Green ”	8	White “ Blue ”

The structure of the standard type cable

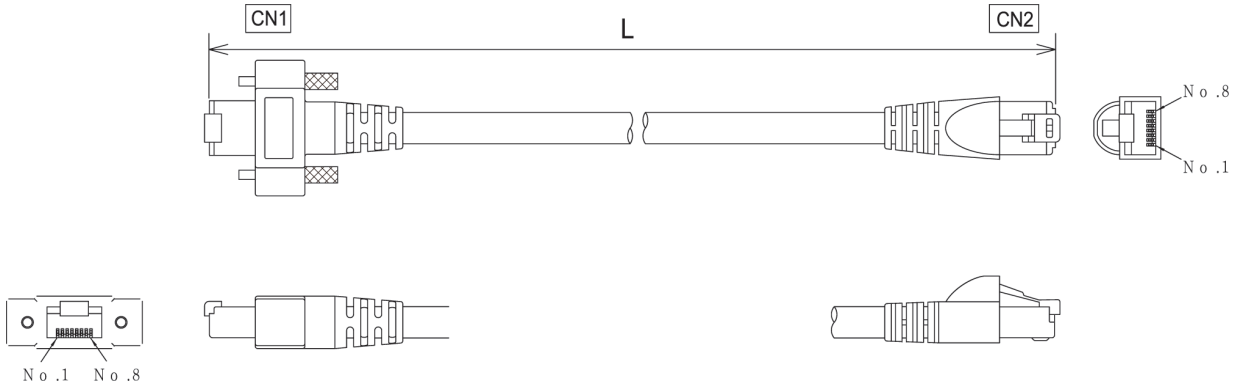


External appearance / Examples of products in the Gigabit Ethernet Cable Assembly line up

- Latch type on both ends



- Horizontal straight mold type + Latch type



Machine Vision USB3.0

Machine Vision USB3.0 Cable

USB3.0 Vision is a standard developed by the U.S. standardization organization AIA, defining detailed cable specification. This category of products also supports the GenICam standard.

Usage & Features

Connecting a computer with a USB3.0 Standard A terminal to peripheral devices such as HDD with a Standard B terminal Connecting FA cameras

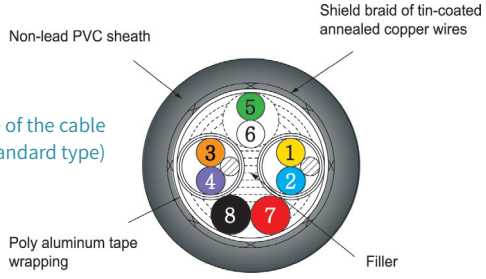
- USB cables that support the USB3.0 standard (5Gbps)
- Offering cables with the USB3.0 A connector and USB3.0 Mirco B connector in the lineup
- Offering the standard plug as well as screw-lock plug for FA use (USB3 compliant)
- Using gold-plated connectors

Structure and performance

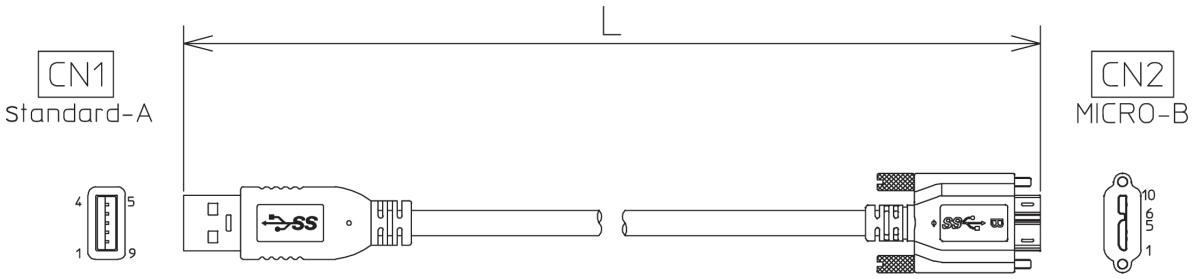
Item		Far moving Parts
Signal conductor size (AWG)		28AWG
External jacket diameter (mm)		6.80 (Max 7.14)
Voltage / temperature rating		30V / 80°C
D-TDR @5Gbps Ω		90±7
Attenuation	0.625GNz	Max 1.0
	1.25GNz	Max 1.5
	2.50GNz	Max 2.5
	5.0GNz	Max 3.6
	7.50GNz	Max 4.7
Skew	D-TDR	Max 15

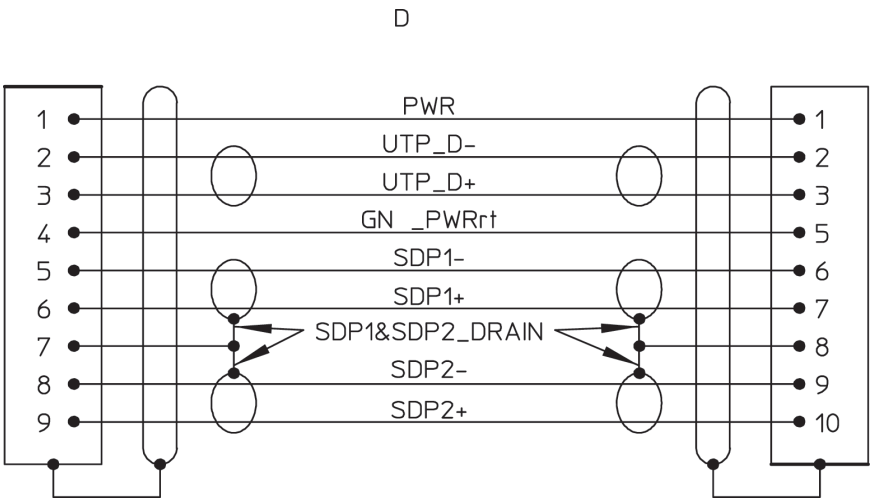
NO.	Color	NO.	Color
1	Yellow	5	Green
2	Blue	6	White
3	Orange	7	Red
4	Purple	8	Black

The structure of the cable (Standard type)



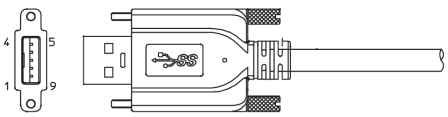
External appearance / Examples of products in the USB3Vision-compatible Cable Assembly line up





* Customization

Normally, the CN1 side is connected to a computer and the CN2 side is connected to a camera. The screw-lock Standard A-Type plug is also available, and can be incorporated into the CN1 and CN2 sides.



Please see the nomenclature on Page 24 to check the standard model number when placing an order. Please contact us for long-distance transmission cables and high flex cables , which are to be phased in to the market..

CoaXPress Cable

CoaXPress (CXP) is an asymmetric high-speed serial communication standard. The interface used one or multiple coaxial cable to transfer video and still images. Single cable transfers video, still images and other data
at the rate of up to 6.25Gb/s, and communicates control signals at a fixed bit rate of 20Mb/s. These cables also support "Power-over-Coax", and can be extended the length of over 100 meters.

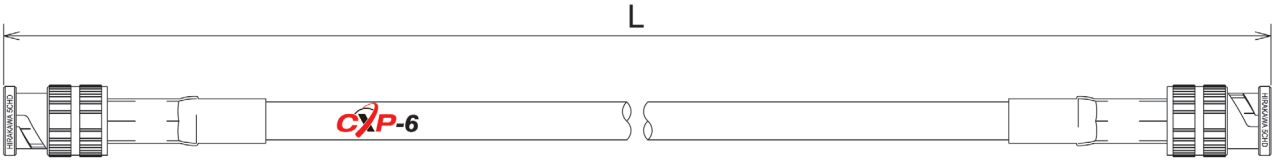
Usage & Features

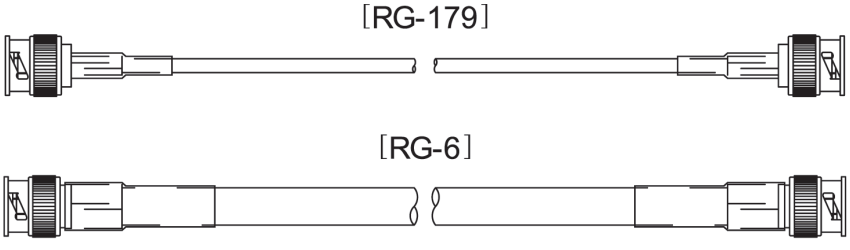
Upgrading from analog to digital for next-generation image applications using Camera Link, GigE Vision and FireWire

- High data rate: Up to 6.25Gbit (When using one coaxial cable) or up to 25Gbit/s (When using four cables)
- Extended cable length: Up to 170 meters (without a hub or repeater)
- Scalable implementation: 40m @ 6.25Gbit/s to the maximum of 170m @ 1.25Gbit/s
- Flexible cable solution and the transfer of video, data, control signals and power with single coaxial cable
- Hot pluggable
- JIIA certified (CXP-3 up to 100 meters and CXP-6 up to 40 meters) *2

Structure

*1 The design is subject to change. Please contact us when placing an order.
*2 JIIA certified up to 100 meters for CXP-3 and up to 40 meters for CXP-6 as of February 2013.
The lineup is constantly updated. Please contact us for detsils of non-certified products.





Analog Cable

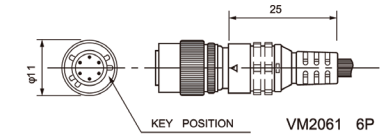
Supports Analog CCD Camera Which supports Analog Video Interface to Frame Grabber.

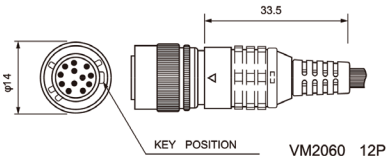
Usage & Features

Such as a CCD camera For small equipment connection

- Align from 4P to 20P, depending on the one-touch of the push-pull locking mechanism It can be quickly inserted and removed . In addition , there is also a screw lock type
- Connectors , Hirose Electric Co., Ltd. HR10A, using the 25 Series Connector And , ultra-small round connector cable , which is our own PVC integral molding process

- Miniaturization of the CCD camera , with the spread of head-separated , camera Cables densified thinning and connections are requested. I have come. Hirakawahyutekku is of the CCD camera cable ,Processing technology the camera cable design technology from the conventional to the base Are fused , we will meet your requirements in various fields .
- Design power of the suggestions of standard products as well , depending on the use environment It detailed response also is in line . Bend performance Improvement of , grant of oil performance , to respond to cold resistance , such as the use environment . Such as the length difference other than Rukoto and standard use , accept your consultation We will .
- Processing of small round connector also have been made . Hard the connecting portion After hardened with resin , the reliability of performing integral molding processing It has adopted a high processing method . Also ultra-small connector pressure For this, we are subjected to its own integral molding processing . set Connector processing and viewing of vertical type , also specification of the processing of the terminal We support.

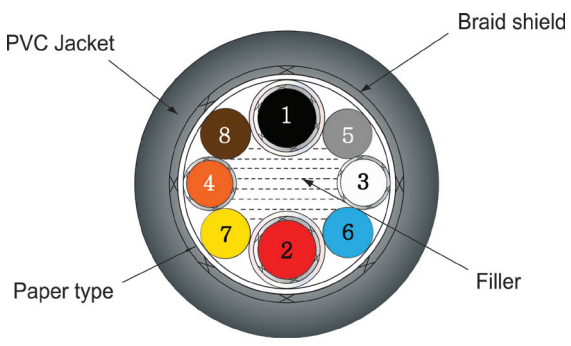




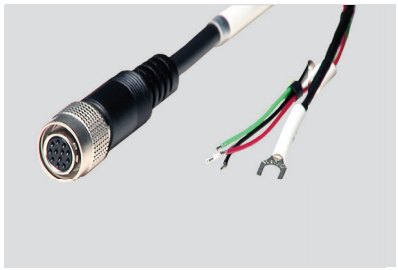
***Plug body portion shape (mm)**

Type	Use connector
VM2061 6P	HR10A-7P-6P、6S
VM2060 12P	HR10A-10P-12P、12S
*VM2092 12P	HR10A-10TP-12P、12S

NO.	Color	NO.	Color
1	Black 1P1S	5	Gray
2	Red 1P1S	6	Blue
3	White 1P1S	7	Yellow
4	Orange 1P1S	8	Brown



TRIGGER CABLE



Trigger Cable

Usage & Features

It can be used for moving wiring of industrial robot and low speed cable veyor

- By ultra-fine wire conductor and use a special insulating material has excellent flexibility and flexibility.
- Use the TPE thermoplastic with excellent insulator case excellent durability during operation for a long time connected camera.
- This was curable by heat during the day is very strong in physical conflict due to the high elasticity of the insulator.
- By applying a special PVC or polyurethane sheath body to cold resistance , oil resistance , excellent wear resistance.
- Based on the review reliability is excellent in bending property by applying special processing methods.
- Implemented by varying the maximum life superfine stranded wire conductor configuration method.

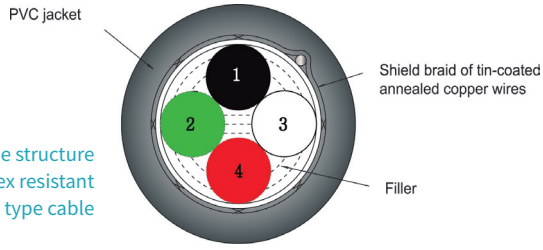
Structure and performance

For moving parts

Item	Flex resistant / high sliding type
Signal conductor size (AWG)	24AWG
External jacket diameter (mm)	4.70 (Max 5.16)
Voltage / temperature rating	300V / 105°C
Characteristic impedance (D-TDR)	51Ω ±5
Skew D-TDR (ps/4.5m)	No more than 130
Standard attenuation 1 GHz (ps/4.5m)	No more than 5.50
Transmission distance (m)	No more than 4.5
Flame resistance	UL VW-1 , CSA FT2 PASS

NO.	Color
1	Black
2	Green
3	White
4	Red

The structure
of the flex resistant
/ high sliding type cable



Specifications

Table 1: 12-pin and 13-pin cable specifications

Feature	8-pin Cable	12-pin Cable
Jacket	HR-PVC (Pb free), 0.81 mm thick, 5.0 mm Ø	PVC Class 43, 6.4 mm Ø +/-0.20
Outer braid shield	Tinned annealed copper, min. 85 % coverage	Tinned annealed copper, min. 85 % coverage
Cable assembly	5 pairs (4 used)	12 x single
Insulation	HRLF PVC 0.1 mm thick, 0.58	SR-PVC
Conductor	Tinned annealed copper, 7 x 0.127 (AWG 28); 0.38 mm Ø	Tinned annealed copper, 7 x 0.16 mm (AWG26)
Max. conductor DC resistance	246 Ω/km at 20°C	max. 140 Ω /km at +20°C
Min. insulation DC resistance	10 M Ω x km at 20°C	min. 100 M Ω x km at +20°C
Compliance	UL 20276 (80°C / 30 V), RoHS (2011/65/EU)	UL/cUL, style 2464/1061, RoHS

I/O connector pin assignment

Guppy camera

Table 3: Guppy I/O definition

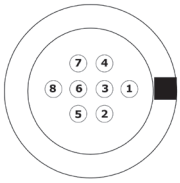
Drawing	Pin	Cable color	Signal	Direction	Level	Description
HR25A-7TP-8S 	1	Yellow dot Red	CameraOut1	Out	TTL	Camera Output 1
	2	Yellow dot Black	CameraOut2	Out	TTL	Camera Output 2
	3	Grey dot Red	CameraOut3	Out	TTL	Camera Output 3
	4	Grey dot Black	CameraIn	In	TTL	Camera Input
	5	Pink dot Black	RxD	In	RS232	Terminal Receive Data
	6	Pink dot Red	TxD	Out	RS232	Terminal Transmit Data
	7	Orange dot Black	ExtPower	-	+8 … 36V	Power Supply
	8	Orange dot Red	GND	-	GND	Ground

Table 4: Guppy PRO I/O definition

Drawing	Pin	Cable color	Signal	Direction	Level	Description
HR10A-10P-12S 	1	Blue	External GND	-	GND for RS232 nd ext. power	External Ground for RS232 and external power
	2	Red	External Power	-	+8...+36 V DC	Power Supply
	3	Pink	-	-	-	-
	4	Grey	Camera In1	In	Uin(high) = 3V...24V	Camera Input 1 (GPIn1) opto-isolated
	5	Yellow	Camera Out3	Out	Open emitter	Camera Output 3 (GPOut3) opto-isolated
	6	Green	Camera Out1	Out	Open emitter	Camera Output 1 (GPOut1) opto-isolated
	7	Brown	Camera In GND	In	Common GND for inputs	Camera Common Input Ground (In GND)
	8	White	-	-	-	-
	9	Black	-	-	-	-
	10	Orange	Camera Out Power	In	Common VCC for outputs max. 36V DC	Camera Output Power for digital outputs (OutVCC)
	11	White/Black	-	-	-	-
	12	White/Brown	Camera Out2	Out	Open emitter	Camera Output 2 (GPOut2) opto-isolated

POWER ADAPTER

Power Adapter

Power Adapters are used in Machine Vision

Usage & Features

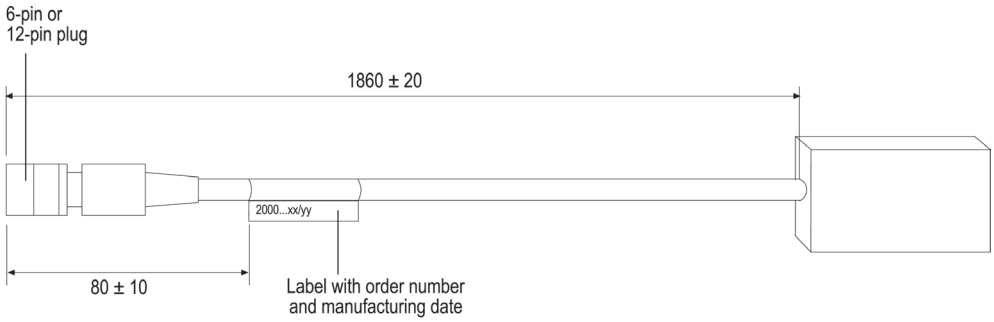
The default installation of high-end adapter as well as a noise filter to be used only rated input AC190V-240V, 60Hz 3A and the Rated Output DC 12V 3.5A for outstanding performance with high efficiency as well as stable enabled products

- Align from 4P to 20P, depending on the one-touch of the push-pull locking mechanism It can be quickly inserted and removed . In addition , there is also a screw lock type
- Connectors , Hirose Electric Co., Ltd. HR10A, using the 25 Series Connector And , ultra-small round connector cable , which is our own PVC integral molding process

MCB	-	PWR	-	X	X	X	xM
MEMS Cable		POWER		①	②	③	④

① S : SAMWOO Connector , H : Hirose Connector
Pin Position : 6: 6pin , 8: 8pin , 12: 12pin

③ R : Robot Cable N : Normal Cable
④ Cable Length



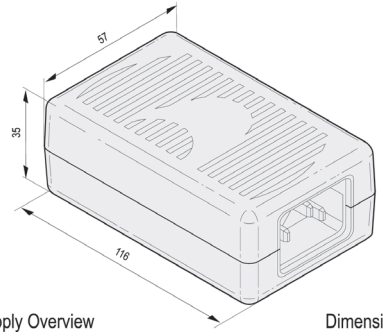
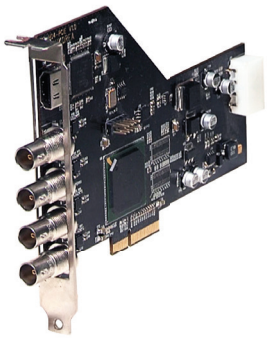


Fig. 1: Power Supply Overview

Dimensions in mm

Specifications		MCB-PWR-x6xxM	MCB-PWR-x8xxM	MCB-PWR-x12xxM
Physical Specifications				
DC Output Connector		6-pin plug for applicable cameras	8-pin plug for applicable cameras	12-pin plug for applicable cameras
AC Input Connector		IEC 60320 C14		
Housing Dimensions		116 mm x 57 mm x 35 mm		
Housing Material		94V-0 Polycarbonate		
Minimum Bending Radius (Cable)		35 mm, fixed installation		
Minimum Number of Bending Cycles (Cable)		None (for fixed installation only)		
Suitable for Drag Chain Applications		No		
Suitable for Robotics Applications		No		
Electrical Specifications				
AC Input	Voltage Range	190 - 240 VAC		
	Current	3 A max		
	Frequency Range	60 Hz		
DC Output	Voltage	12 VDC ± 1 %		
Isolation Input/Output		Yes		
Earth Leakage Current		< 3.5 mA @ 240 VAC		
Turn-on Delay		1 s typical		
Inrush Current		60 A @ 230 VAC		
Hold-up Time		8 ms @ full load		
Safety		SELV (Safety Extra-Low Voltage) , SELV (Safety Extra-Low Voltage)		
Overvoltage at Output		Protected		
Short Circuit at Output		Protected (Auto Recovery)		
Environmental Specifications				
Operating Temperature Range		0 °C - 40 °C		
Humidity		0 % - 90 % relative, non-condensing		
General Specifications				
MTBF		200,000 hrs @ 25 °C ambient temperature		
Energy Efficiency		ENERGY STAR Version 2.0, Level V		
Plug Specifications				
Durability		> 100 mating cycles		
Protection Rating		IP40		
Plug Insulation Material		Polyamide/PBT		
General Information				
RoHS Compliance		Yes		
Warranty		1 year		

MBD-HD-SDI-2 / MBD-HD-SDI-4



2-CH/4-CH PCI Express® HD-SDI Framerabber Card

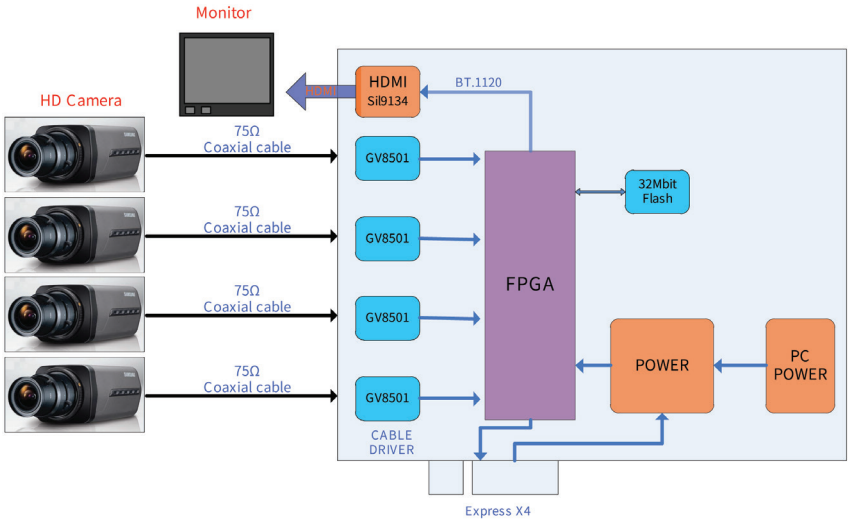
- It support PCI-E x4 for PC interface
- Adjust frame rate for each camera
- 4 Channel Total 240fps for 1080P60 or 720P60
- 4 Channel Total 120fps for 1080P30 or 1080i60
- Support Mixed Camera type
  ex) 720P for CH1, 1080P30 for CH2, 1080i for CH3, 1080P60 for CH4
- Support HDMI Spot for 1 Channel

* Must be used with HD-SDI Cameras

Introduction

MEMS MBD-HD-SDI-2 and MBD-HD-SDI-4 are x4 PCI Express 3G-SDI / HD-SDI frame grabber cards

- Block Diagram



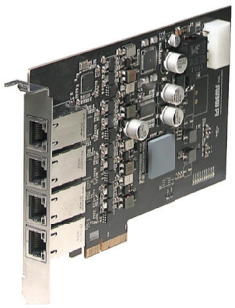
Specifications

Model	MBD-HD-SDI-2	MBD-HD-SDI-4
Cannel	HD-SDI : 2ch / HDMI 1ch	HD-SDI : 4ch / HDMI 1ch
Max FPS	1920x1080p@60/50fps	
Recording Mode	Software Compression, Real-Time Mode	
Interface	x4 PCI Express	
Video RAW Data Format	YUV420	
Video RAW Data Resolution	3G-SDI : 1920x1080p@60/50fps HD-SDI : 1920x1080p@30/25fps / 1920x1080i@60/50fps / 1280x720p@60/50fps	
Operating Temp.	0°C ~ 60°C with air flow	
Dimension	168.6 mm (W) x 104 mm (H)	
OS Support	Windows XP / Vista / Windows7 Windows 8 / Windows 8.1 / Windows 10 (32-bit and 64-bit)	

MBD-GigE-PoE2+ / MBD-GigE-PoE4+

2-Port/4-Port x4 PCI-E Gigabit Power over Ethernet Frame Grabber Card

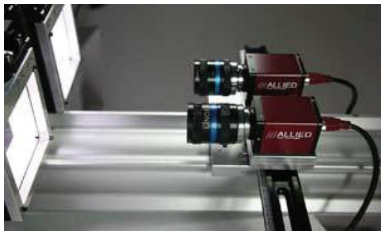
- x4 PCI Express® interface to support a total bandwidth of 1GB/s
- Supports for four (PoE4+) or two (PoE2+) independent GigE Ports
- Supports for Compliant with IEEE 802.3af to deliver 15.4 W each port
- Supports for jumbo frames (9 kB)
- Supports for link aggregation
- No external 12 VDC input needed for MBD-GigE-PoE2+
- Powered Device (PD) auto detection and classification



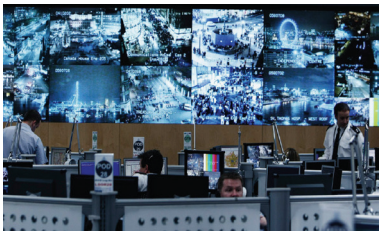
Introduction

MEMS MBD-GigE-PoE2+ and MBD-GigE-PoE4+ are x4 PCI Express GigE frame grabber cards with PoE capability. PoE, or Power over Ethernet , is a technology to supply electrical power along with data over a standard Ethernet cable. MBD-GigE-PoE2+ offers two PoE ports and MBD-GigE-PoE4+ offers four PoE ports via independent Intel® 82574L Gigabit Ethernet controllers. MBD-GigE-PoE2+ and MBD-GigE-PoE4+ are dedicatedly designed for PoE cameras. Each port can deliver 15.4 W of power and 1000 Mb/s bandwidth over a CAT-5/CAT-6 cable of up to 100 meters. It features 9 kB jumbo frame and link aggregation, which conduct exceptional performance for continuously receiving large amount of image data. And for your convenience, we design MBD-GigE-PoE2+ with the capability of directly drawing power from PCI-E bus so no external 12 VDC is needed. The PoE technology significantly reduces the installation and maintenance cost by eliminating the power wire. Combining PoE and the Gigabit bandwidth, PCIe-PoE2+ and PCIe-PoE4+ are the perfect fit for your vision application!

Applications



Machine vision



Surveillance / Security

Automated Traffic Enforcement

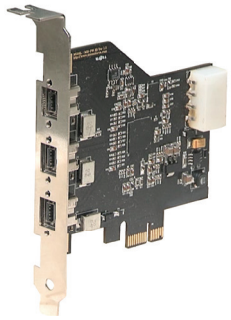
Specifications

Model	MBD-GigE-PoE2+	MBD-GigE-PoE4+
Bus Interface	x4 PCI Express	
Gigabit Ethernet Port	2x Gigabit Ethernet ports by Intel® 82574L controllers, supporting 9 kB jumbo frame & link aggregation (teaming)	4x Gigabit Ethernet ports by Intel® 82574L controllers, supporting 9 kB jumbo frame & link aggregation (teaming)
PoE Capability	IEEE 802.3af compliant, each port delivers up to 15.4W	
Cable Requirement	CAT-5e or CAT-6 cable, 100 meters maxima	
Power Requirement	Maximal 1.6A @ 3.3V from PCI Express bus Maximal 2.8A @ 12V directly from PCI Express bus	Maximal 2.4A @ 3.3V from PCI Express bus Maximal 5.6A @ 12V from external power plug via 4-pin power connector**
Operating Temperature	0°C ~ 60°C with air flow	
Dimension	167.7 mm (W) x 111.2 mm (H)	

* MBD-GigE-PoE2+ is designed to directly draw 12V power for PoE devices from PCI Express bus. No external 12 VDC input is needed.

** MBD-GigE-PoE4+ is designed to obtain additional 12V power for PoE devices from its on-board 4-pin power connector.

MBD-1394-3b / MBD-1394-2b1a



3-port OHCI 1.2 Compliant IEEE 1394b (Firewire 800) to PCI Express x1 Host Card

- Host Bus: 1-lane 2.5 Gb/s PCI Express
- Complies with 1394 OHCI draft 1.2
- Three external 1394 ports
  - Two Bilingual IEEE Std 1394b-2002 Cable Ports
  - One FireWire IEEE Std 1394a-2000 Cable Port
- Supports Bilingual Plug port with Jackscrew Type 1394b Cable

Introduction

MEMS MBD-1394-3b and MBD-1394-2b1a are x1 PCI Express 1394 frame grabber cards MBD-1394-xxxx is designed with Texas Instruments XIO2213B controller. The Texas Instruments XIO2213B is a PCI Express to PCI translation bridge where the PCI bus interface is internally connected to a 1394b open host controller link-layer controller with a three-port 1394b PHY. The PCI-Express to PCI translation bridge is fully compatible with the PCI Express to PCI/PCI-X Bridge Specification, Revision 1.0. Also, the bridge supports the standard PCI-to-PCI bridge programming model. The 1394b OHCI controller function is fully compatible with IEEE Standard 1394b and the latest 1394 Open Host Controller Interface (OHCI) Specification. Deep FIFOs are provided to buffer 1394 data and accommodate large host bus latencies. The device provides physical write posting and a highly tuned physical data path for SBP-2 performance. The device is capable of transferring data between the PCI Express bus and the 1394 bus at 100M bits/s, 200M bits/s, 400M bits/s, and 800M bits/s. MBD-1394-xxxx provides full PCI Express and 1394b functionality and performance.

Specifications

Item	MBD-1394-3b	MBD-1394-2b1a
Cable Port	Two Channel IEEE Std 1394b-2002 Cable Ports	Two Channel IEEE Std 1394b-2002 Cable Ports One Channel IEEE Std 1394a-2002 Cable Ports
Power Requirement	• Full x1 PCI Express Throughout • Fully Compliant with PCI Express Base and 800M Bits/s Specification, Revision 1.1 • Utilizes 100-MHz Differential PCI Express Common Reference Clock or 125-MHz Single-Ended Reference Clock • Fully supports provisions of IEEE P1394b-2002 Global Unique ID for the 1394 Fabric Fully Compliant With Provisions of IEEE Std 1394-1995 for a High-Performance Serial Bus and IEEE Std 1394a-2000 • Fully Compliant with 1394 Open Host Controller Interface Specification, Revision 1.1 and Revision 1.2 draft • Three IEEE Std 1394b Fully Compliant Cable Ports at 100M Bits/s, 200M Bits/s, 400M Bits/s, and 800M Bits/s • Cable Ports Monitor Line Conditions for Active Connection To Remote Node • Cable Power Presence Monitoring • EEPROM Configuration Support to Load the Global Unique ID for the 1394 Fabric Support for D1, D2, D3hot • Active State Link Power Management Saves Power When Packet Activity on the PCI Express™ Link is Idle, Using Both L0s and L1 States • Eight 3.3-V, Multifunction, General-Purpose I/O Terminals	
Power Requirement	Maximal 500mA @ 12V from external power plug via 4-pin power connector**	
Operating Temperature	0°C ~ 60°C with air flow	
Dimension	90 mm (W) x 86.6 mm (H)	