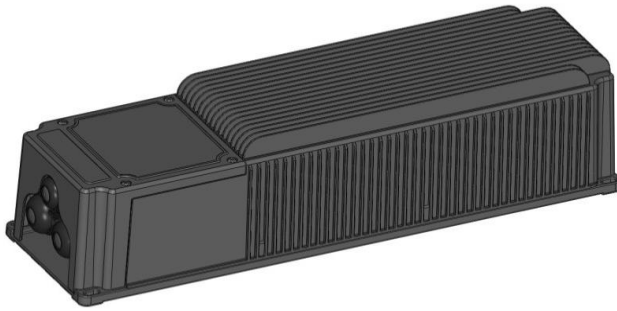




Datasheet

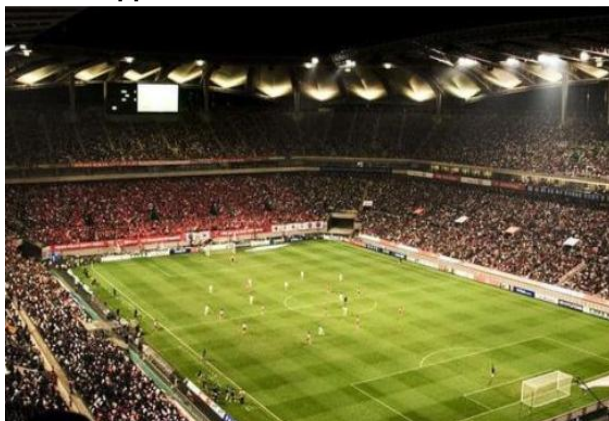
■ Description

MT1800H200CQI780 is an intelligent outdoor led driver. With a flexible dimming method, combine DALI2.0 or DMX interface to control the output current from 60-2000mA. The driver can provide excellent lighting quality. The driver is also designed with thermal management and long lifetime. The driver can provide the strobe working mode to provide customized lighting shows cooperated with the flood light.

■ Main Characteristics

- Input voltage range:198-440VAC.
- Built-in active PFC function.
- Three channel outputs common anode independent control.
- Max Output Power 600W per channel.
- Output Current,ranging from 60-2000mA.
- Output Voltage,ranging from 170-415Vdc.
- Dimming Control method: DALI 2.0 + DMX
- High efficiency: 95% Typ.
- Strobe Function, frequency settable from 0.1 ~ 40Hz.
- Output voltage, output current, output power sensing
- Output short circuit protection, overvoltage protection
- Surge level 10kV common mode and differential mode.
- Non Isolated , Class I.
- IP66 design for indoor or outdoor installation.
- Max remote distance 200 meters.

■ Main Application



Stadium Lighting



Arena Lighting

■ Electrical Input Data

Efficiency(Typ.)Note.1	95% @ 230Vac; 96% @ 415Vac
Voltage Range (Vac) Note.2	198 ~ 440Vac
Voltage Range Note.2	230 ~ 415Vac
Frequency Range	47~63 Hz
Power Factor	>0.9 at 230~415Vac input, with 50% ~ 100% load conditions
THD	<20% at 230~415Vac input , with 50% ~ 100% load conditions
AC Current	9.5A MAX at 230Vac, 5A MAX at 415Vac
Inrush Current	Cold start 20A at 230Vac, 30A at 415Vac(twidth=680μs measured at 50% Ipeak)

■ Electrical Output Data

Output Channel	three Channel Output Common LED+
Rated Output Voltage (Vdc)	170Vdc ~ 415Vdc per channel
Output Voltage Range(Vdc)	160Vdc ~ 415Vdc (Three channels are all the same.)
Rated Current (mA)	1200mA ~ 2000mA (Three channels are all the same.)
Output Current Range(mA)	60mA - 2000mA
Rated Power (W)	600W per channel, 1800W total
Current ToleranceNote.3	±5%
Line Regulation	±1%
Load Regulation	±2%
Turn-on Delay Time	settable from 450-1500ms at 230Vac
Output RippleCurrent	2% of Io_max. ((PK-AV)/AV) with LED default mode an full load, <3kHz
Output Peak Current	20% of Io_max. ((PK-AV)/AV) with LED default mode an full load, >3kHz
Dimming Range	no overshoot
	5% - 100%

■ Protection

Over Voltage (V)(Typ.)	>450V, Protection type: Hiccup mode. Recovers automatically after fault condition is removed
Short Circuit	Hiccup mode, recovers automatically after fault condition is removed
Over Temperature	Decreases output current,returning to normal after over temperature is removed

■ Environment

Operating Temperature	-40~+50℃, refer to the derating curve for detail
Operating Humidity	5~95%RH, non-condensing
Storage Temperature & Humidity	-40~+85℃, 5%-95%RH
Temperature Coefficient	0.03%/℃ (0~55℃)
Vibration	3G force or above at response Hz(5~30Hz), X,Y,Z axes, 100k cycles/axis / 30G 11ms 2 times, 50G 11ms 1 time, at X,Y,Z axis
Tc max	90℃

■ Safety & EMC

Safety Standard	GB7000.1, IEC 62262, IEC 60068-2-75
Withstand Voltage	Mains VS Output/NTC:Non isolated; Mains VS DMX/RDM Double isolated; Mains vs Housing:Basic isolated
Isolation Resistance	Output/NTC VS DMX/RDM: Double isolated; Output/NTC VS Housing: Basic isolated
EMC Emission	I/P-FG, O/P-FG:100M Ohms/500VDC/25℃/70%RH
EMC Immunity	EN55015/FCC Part 15 Class B, EN61000-3-2 Class C, EN61000-3-3
	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, light industry level (surge:L--N:±10KV,L,N--FG:±10KV)

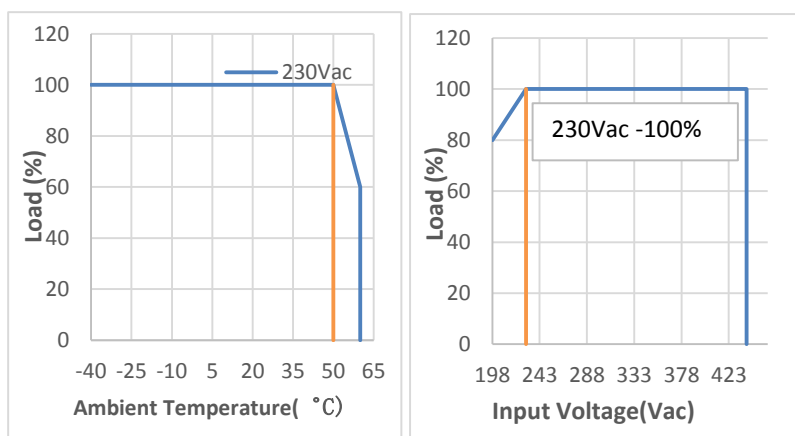
■ Others

MTBF	250,000 hours, measured at full load, 25℃ ambient temperature MIL-HDBK-217F(25℃)
Dimension(L*W*H)	500mm*141mm*120mm
Weight	6.1Kg

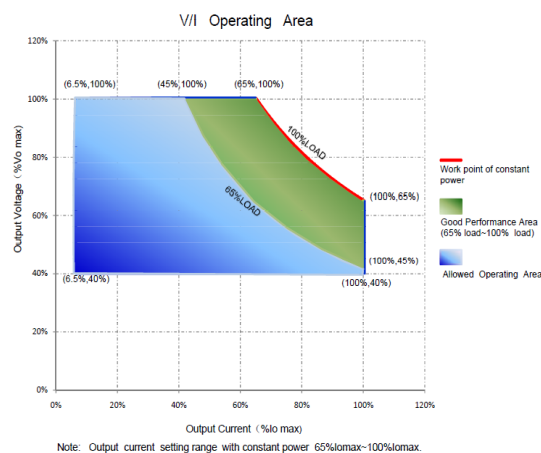
■ Notes

Note.1	Measured at full load and steady state, in 25℃ ambient temperature. Efficiency will be about 2% lower if measured immediately after startup.
Note.2	Derating may be needed under low input voltages. Please check the static characteristics for more details
Note.3	Includes set up tolerance, line regulation and load regulation

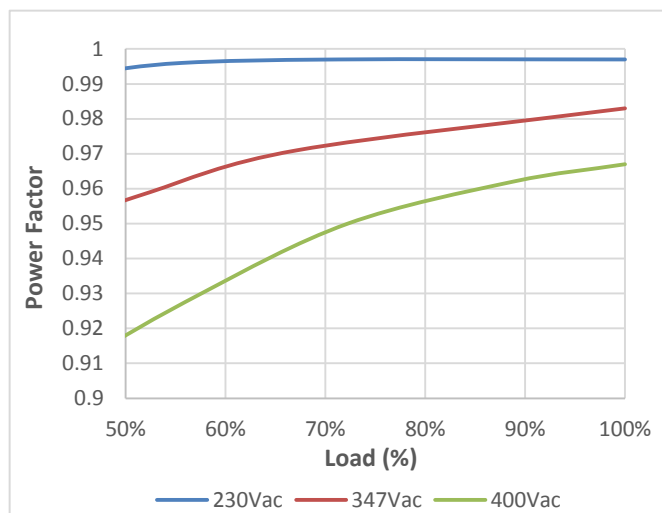
Derating Curve



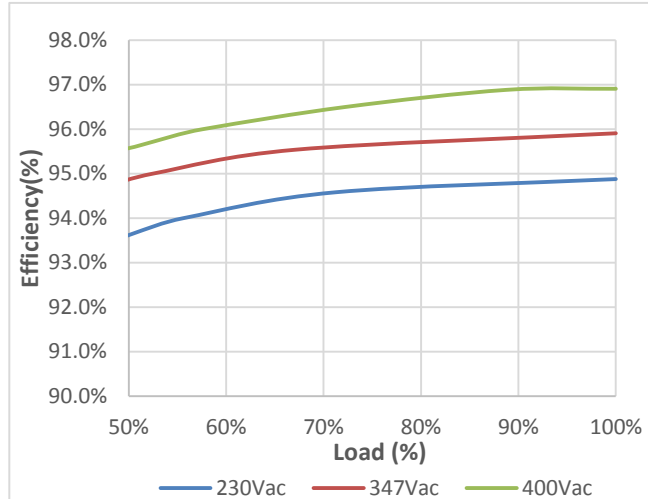
V/I Curve



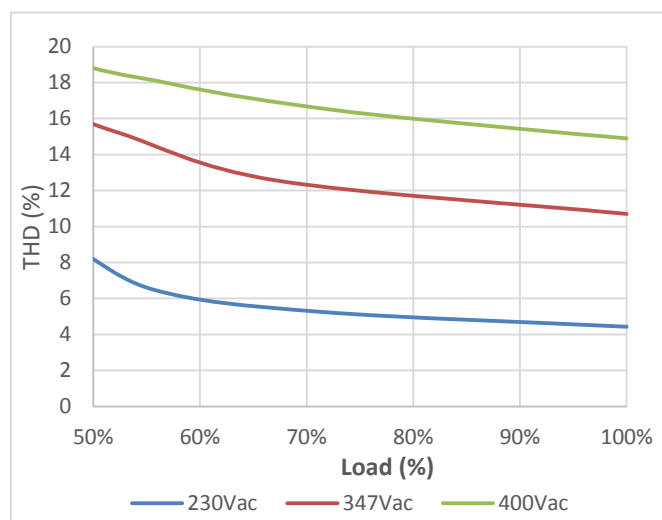
Power Factor VS. Load Curve



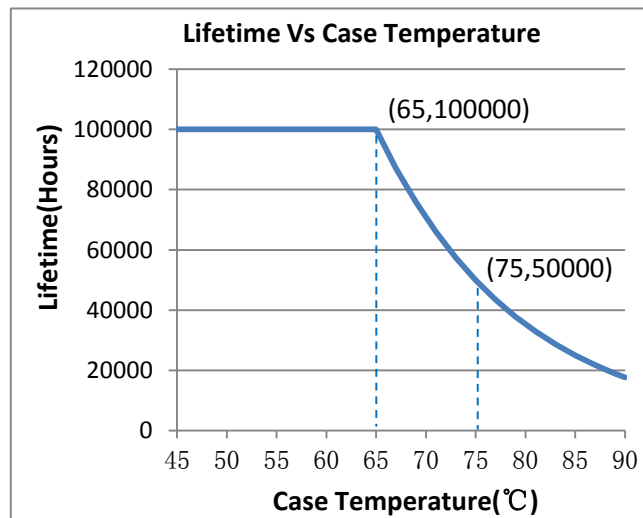
Efficiency VS. Load Curve



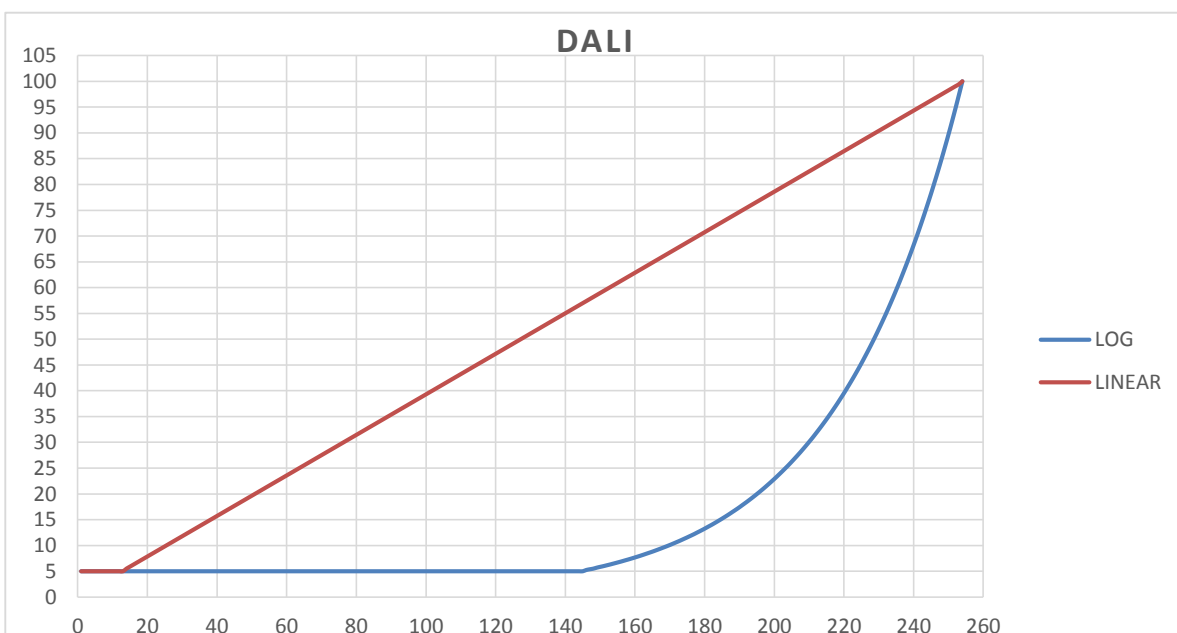
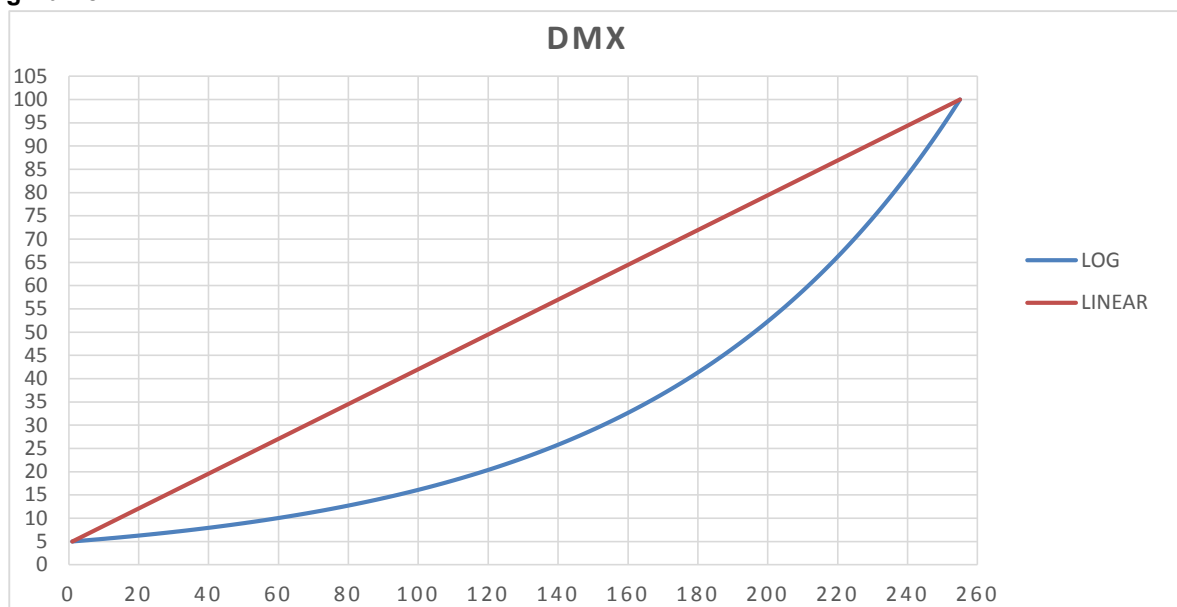
THD VS. Load Curve



Life Time VS. Tcase



■ Dimming Curve



■ NTC Dimming

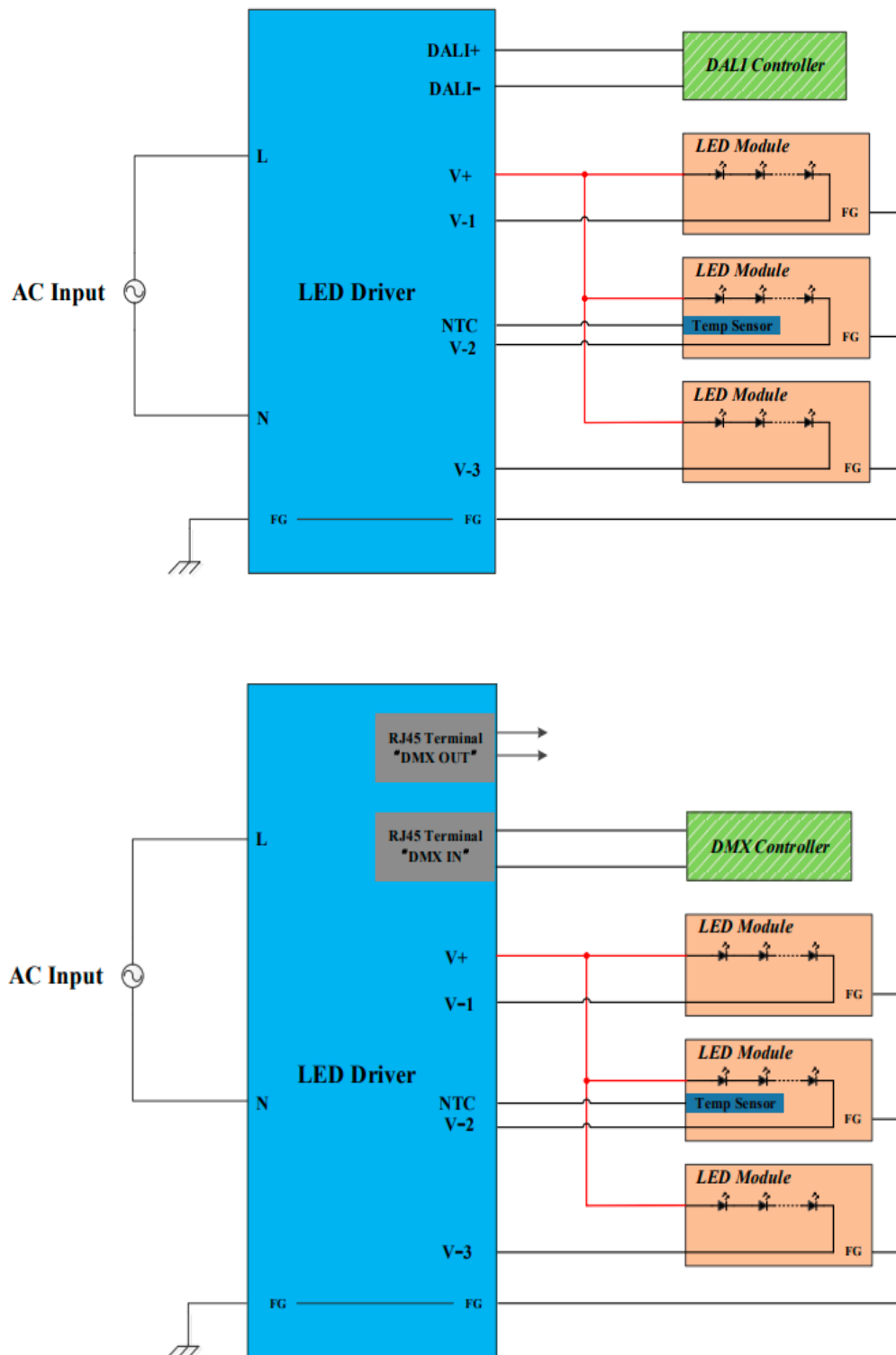
TLED(°C)	90	100	105	110	115	120	125
NTC: TSM2A473J409ARZA	4.02K	2.95K	2.55K	2.20K	1.91K	1.66K	1.45K
IOUT(%)	100%	100%	50%	25%	12.50%	0%	0%

Note: This protection is an optional feature and user can connect nothing to NTC to ignore it.

The external LED module temperature can be detected using an NTC thermistor and the default threshold is 100°C that can be configurable. And the LED driver will check the external temperature every 5 minutes.

If the over-temperature condition is detected, the output current will decrease to 50% of the previous current. And if the output current is less than 12.5% of the set output current, power off the LED driver that will be recovery when the temperature of the LED assembly bring back to safe value.

■ Connection Schematic

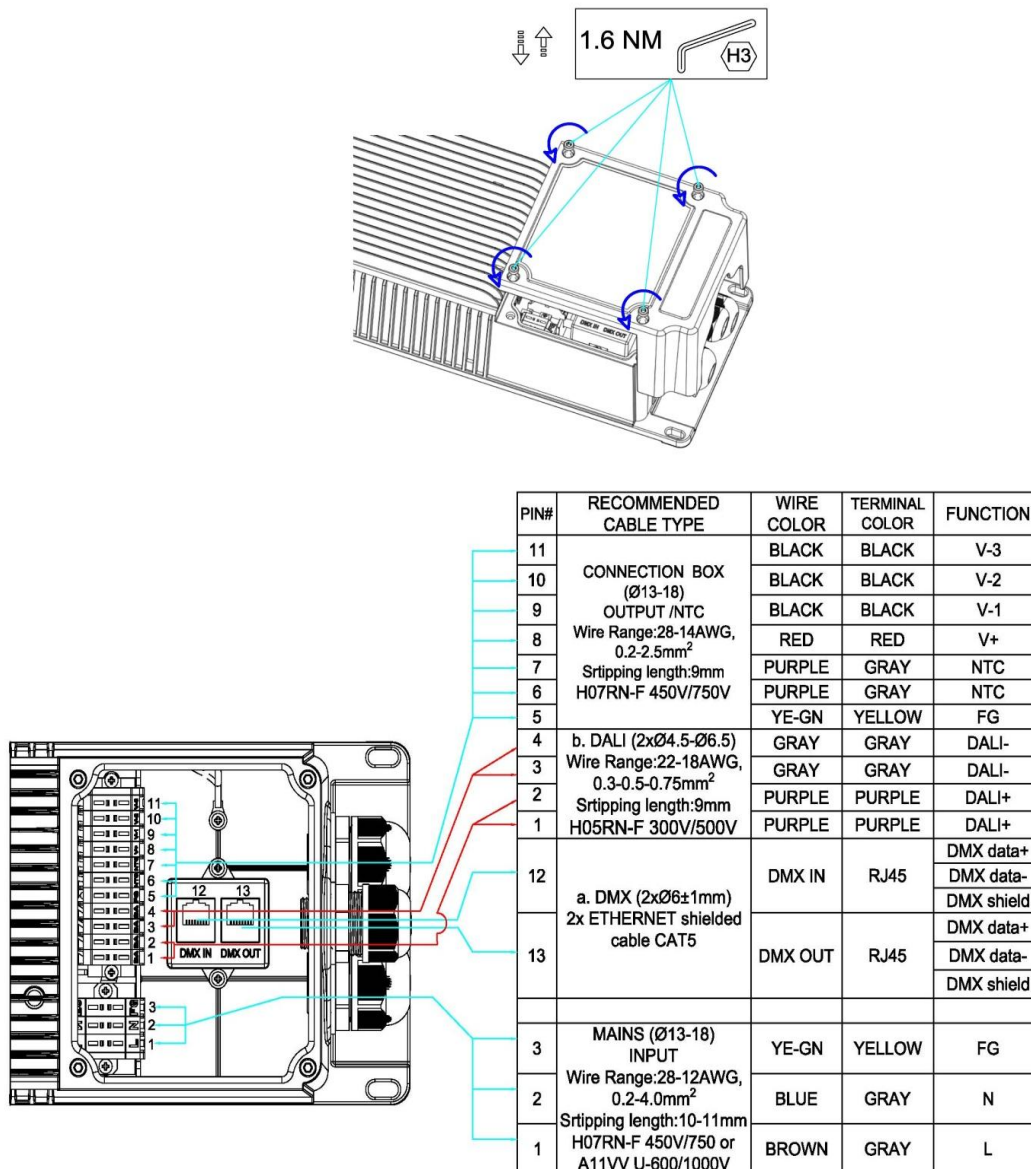


Note: FG is indicated as Protective Earth

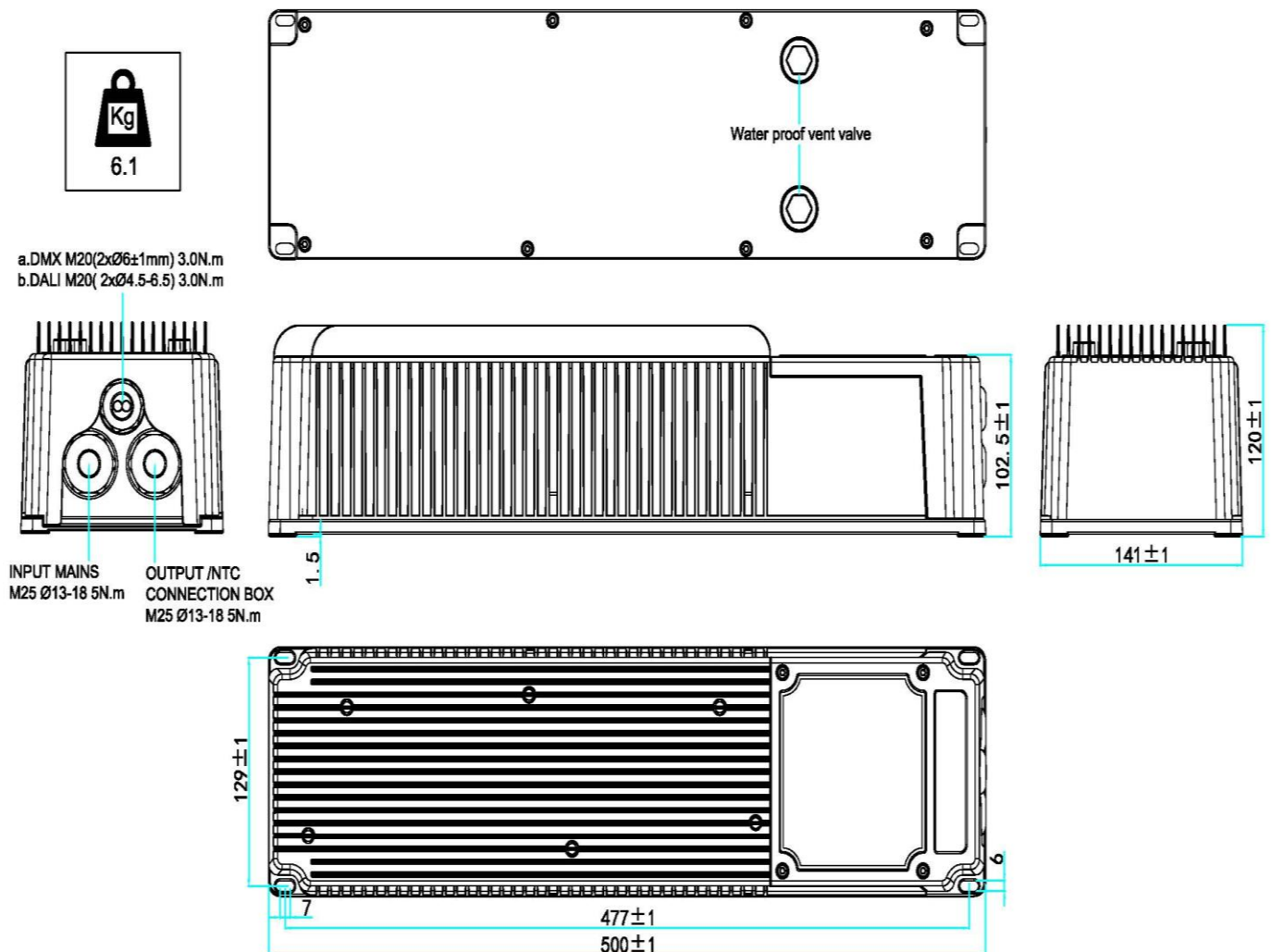
■ Electrical Connection

	Mains Section(AC Side) Three input terminal blocks, for AC input L1,L2 and PE connections (M25 Cable Gland). Total number of mains connection is composed of 3 positions.
	Control Section DA+,DA+,DA-,DA- Ouput connection FG,NTC,NTC,V+,V-1,V-2,V-3

■ Wiring Connection



■ Mechanical Specification (Unit: mm)



■ Label

TBD

RoHS Compliance:

Our products comply with the European Directive 2011/65/EU, calling for the elimination of lead and other hazardous substances from electronic products.