

KLM-200CF-16AD8

This module designed for light emitting display device.
Organize with 16×16 matrix combination with 256 of
each Red,PGreen,Blue LED Chips, for Indoor use

FEATURES

- Active display size(x*y) : 200mm × 200mm
- Dot pitch : 8mm
- Display color : RED,PGREEN,BLUE (full color)
- Duty rate : 1/8
- Dot matrix(x*y) : 256(16×16)
- Viewing angle : ±60°
- Weight : 3000g(Typ.)

ABSOLUTE MAXIMUM RATINGS

| ITEM | SYMBOL | RATINGS | UNIT |
|-----------------------|------------------|------------------------|------|
| Power dissipation | P | 25 | W |
| Supply voltage(DRIVE) | V _{DD} | 5 | V |
| Supply voltage(LED) | V _{LED} | 5 | V |
| Logic input power | V _{in} | -0.5 ~ V _{DD} | V |
| Junction Temp. | T _j | 115 | °C |
| Operating Temp. | T _{opr} | -20 ~ +65 | °C |
| Storage Temp. | T _{stg} | -20 ~ +70 | °C |

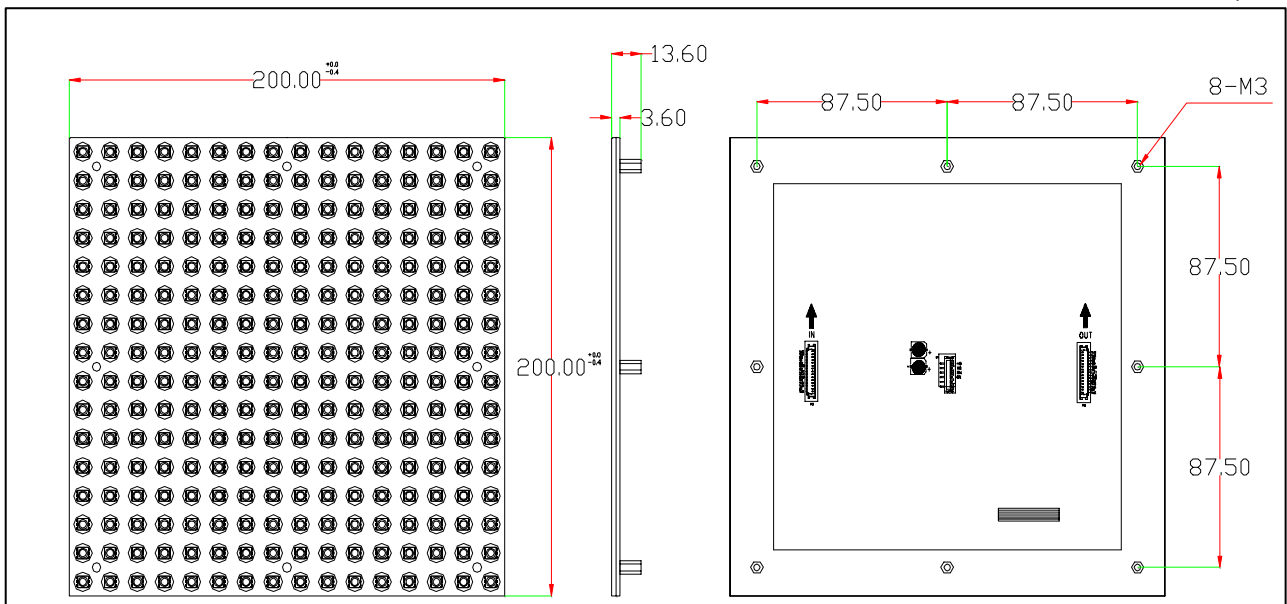
OPTICAL CHARACTERISTICS

Ta=25°C

| ITEM | | SYMBOL | CONDITION | MIN. | TYP. | MAX. | UNIT |
|-------------------------|-------|----------------------------|---|------|-------|------|-------------------|
| Brightness (16 * 16) | GREEN | I _{v_g} | V _{DD} = 5V V _{LED} = 5V | - | 1,200 | - | cd/m ² |
| | RED | I _{v_r} | | - | 500 | - | |
| | BLUE | I _{v_b} | | - | 300 | - | |
| | FULL | I _{v_f} | | - | 2,000 | - | |
| Supply-current(LED) | GREEN | I _{LEDg} | | - | 1.5 | - | A |
| | RED | I _{LEDr} | | - | 2.0 | - | |
| | BLUE | I _{LEDb} | | - | 1.5 | - | |
| | FULL | I _{LEDf} | | - | 5.0 | - | |
| Emission Wavelength | GREEN | λ _{P_g} | | - | 525 | - | nm |
| | RED | λ _{P_r} | | - | 625 | - | |
| | BLUE | λ _{P_b} | | - | 465 | - | |

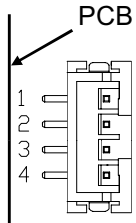
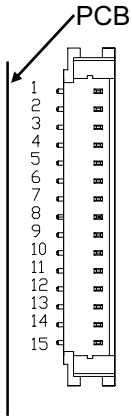
DIMENSION

(Unit : mm)



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INTERFACE



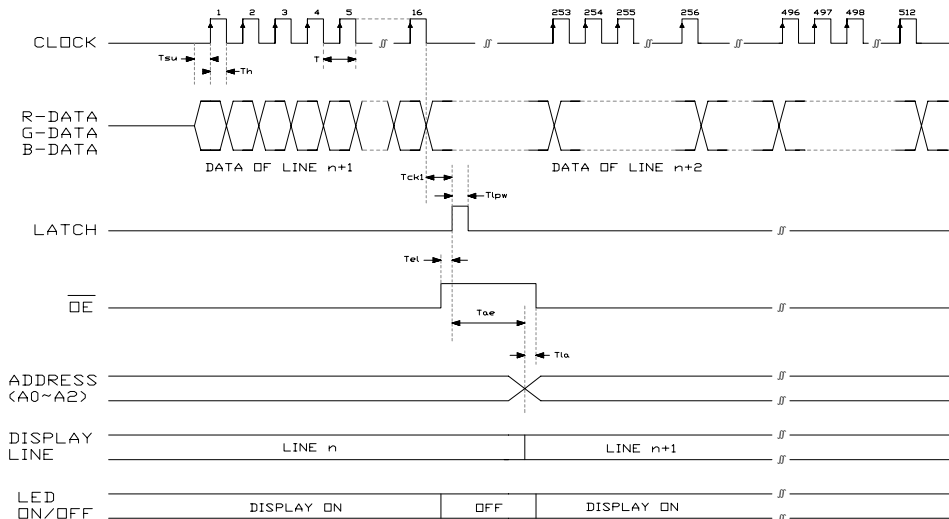
connector pin number & signal function

| PIN NO | SIGNAL | SIGNAL-FUNCTIO |
|--------|--------|-------------------------|
| 1 | R0 | RED DATA SIGNAL(HIGH) |
| 2 | G0 | GREEN DATA SIGNAL(HIGH) |
| 3 | A0 | LINE SELECT SIGNAL |
| 4 | A1 | LINE SELECT SIGNAL |
| 5 | A2 | LINE SELECT SIGNAL |
| 6 | GND | GROUND |
| 7 | OE | DISPLAY ON/OFF SIGNAL |
| 8 | LAT | DATA LATCH SIGNAL |
| 9 | CLK | DATA SHIFT SIGNAL |
| 10 | GND | GROUND |
| 11 | B0 | BLUE DATA SIGNAL(HIGH) |
| 12 | R1 | RED DATA SIGNAL(LOW) |
| 13 | G1 | GREEN DATA SIGNAL(LOW) |
| 14 | B1 | BLUE DATA SIGNAL(LOW) |
| 15 | DIS | No signal |

Power connector pin number & signal function

| PIN NO | SIGNAL | LEVEL | SIGNAL-FUNCTIO | WIRE COLOR |
|--------|--------|-------|------------------|------------|
| 1 | VLED | 5 [V] | POWER OF THE LED | WHITE |
| 2 | | | | |
| 3 | GND | 0 [V] | GROUND | BLACK |
| 4 | | | | |

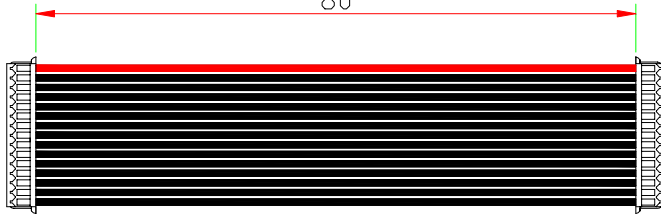
TIMING CHART MODULE(16X16) DISPLAY



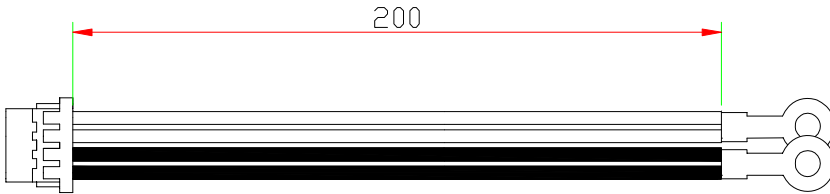
| NO | ITEM | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|----|---------------------|------------------|------|------|------|------|
| 1 | CLOCK CYCLE | T | - | - | 25 | Mhz |
| 2 | CLOCK-LATCH TIME | T _{ckl} | 50 | - | - | ns |
| 3 | LATCH PULSE WIDTH | T _{lpw} | 100 | - | - | ns |
| 4 | ENABLE- LATCH TIME | T _{el} | 100 | - | - | μs |
| 5 | DATA SETUP TIME | T _{su} | 20 | - | - | ns |
| 6 | DATAH OLD TIME | T _h | 25 | - | - | ns |
| 7 | ADDRESS-ENABLE TIME | T _{ae} | 20 | - | - | μs |
| 8 | LATCH-ADDRESS TIME | T _{ia} | 20 | - | - | ns |

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CONNECTOR SPECIFICATION



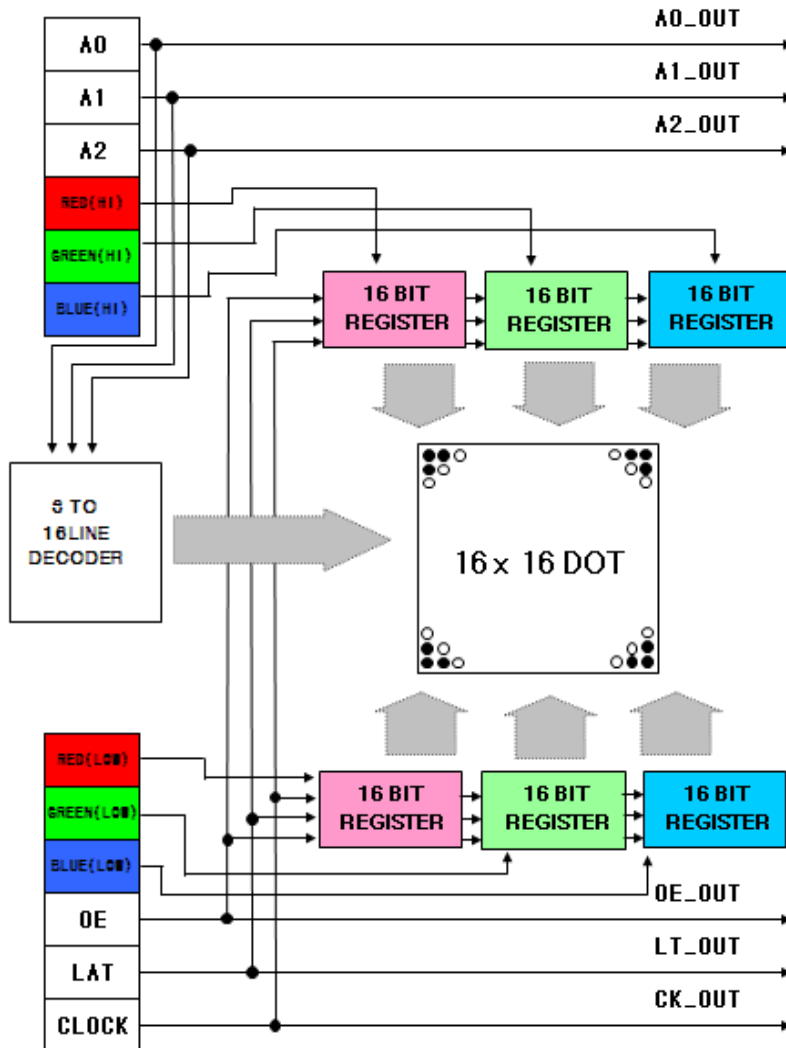
DATA CABLE



POWER CABLE

| ITEM | | VENDOR | MODEL NO. | NOTE |
|-----------|-------|----------|------------|------|
| CONNECTOR | DATA | YEONHO | 12505WS-15 | |
| | POWER | YEONHO | 20022WS-04 | |
| CABLE | DATA | DAECHANG | 12505HS-15 | |
| | POWER | DAECHANG | 20022HS-04 | |

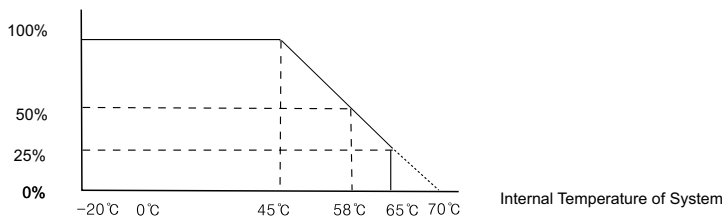
BLOCK DIAGRAM



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The rate of Display lights

Display light rate



- * Please control Module Temperature with keeping Display Light Rate in mind and being compliant to the chart above.
- * The proof measure for sufficient radiation is requisite in case of multi-units, such as using fan.
Please keep an eye on the surface temperature not to rise over 70°C
- * You can control Display Light Rate with Out Enable when your controlling fails to go with the chart above.

INSTALLMENT NOTICES

- 1). Please apply this modules at a safe surrounding against noise because the error or mis-operation may occur at fragile place of noise. Therefore consider the place you will install.
- 2). Check surely the power condition previous to operation test in order to prevent module damage which might be caused by the excessive power.
- 3). Water proofing is not covered. Therefore we recommend water proofing at least in the front of modules.
- 4). Modules should be set up within the guarantee limitation and especially kept away from salt, dust, soot and **SO₂ GAS** etc.
- 5). When there is no data transmission at operation test, just turn power off immediately. Otherwise operating circuit gets damage.
- 6). Please apply this product under the range of guarantee, considering the sufficient radiation in case of the assembled multi-module.
- 7). V_{LED} is recommended the maximum of rating voltage for best result under the low temperature such as -15°C below.
- 8). Please check the insert direction when you attach SIGNAL CONNECTOR or link the power.
(Refer to Harness wire colors of which the insert direction is same.)

REFERENCES

- 1). Check **SYSTEM** weight before apply modules into housing
- 2). Operation test or anti-static electricity need for the **CMOS** attached in circuit board.
- 3). Sufficient power capability is necessary to deal with the excessive power which might be drastically caused depending on the condition of the on/off of unit.(Peak Current times 1.5 and higher)
- 4). Power for Logic or **LED** requires Switching Mode Power Supply.
- 5). Use power bus bar when connecting power.
It helps power to keep from falling down.
- 6). Please don't change "switch for luminance adjustment".
The switch was set as outgoing.
- 7). Any further question or trouble herein will be worked out mutually by customer and supplier through sales manager.