



MFPN-20M-100M 1代调Q脉冲光纤激光器

使用手册

版权说明

“ ”

引 语

MFP Q

MFPN-20M-100M Q

公司简介

2004

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: info@maxphotonics.com

| | |
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第一章 特性说明

MFPN-20M-100M Q




1064± 5nm

MFPN-20M-100M Q

Class 4

第二章 安全信息

1 -

|  | |
|---|--|
|  | |
|  | |
| | |

1064nm

Class IV

20W

2 -

1

2

LaserVision USA Kentek Corporation Rochwell Laser Industries

3 -

1

2

3

1

2

3

5

6

7

8

4

MFPN-20M-100M Q

24VDC

| | +24VDC |
|--|--------|
| | GND |
| | |

DC

24VDC

5

1

2

7cm



2

3

6

- 1
- 2
- 3
- 4
- 5
- 6

7

|  | | |
|---|--|--|
|  | | |

4-

Laser Institute of America(LIA)
13501 Ingenuity Drive, Suite 128
Orlando,Florida 32826
Phone:407 380 1553,Fax: 407 380 5588
Toll Free:1 800 34 LASER

American National Standards Institute
ANSI Z136.1, American National Standard for the Safe Use of Lasers
(Available through LIA)

International Electro-technical Commission
IEC 60825-1, Edition 1.2

Center for Devices and Radiological Health
21 CFR 1040.10 - Performance Standards for Light-Emitting Products

US Department of Labor - OSHA
Publication 8-1.7 - Guidelines for Laser Safety and Hazard Assessment.
Laser Safety Equipment

Laurin Publishing
Laser safety equipment and Buyer' s Guides

第三章 产品描述

1 -

MFPN-20M-100M Q
MOPA

Q
1064nm

25Pin

/ ,

1

2

3

4 25

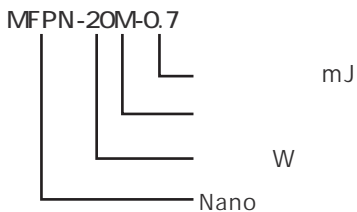
1 /

2

2-

| MFPN-20M | 20W Q |
|-----------|--------|
| MFPN-25M | 25W Q |
| MFPN-30M | 30W Q |
| MFPN-50M | 50W Q |
| MFPN-70M | 70W Q |
| MFPN-100M | 100W Q |

| M:MAX | F:Fiber laser | P: Pulsed | (Q-Switch Q) | MFP |
|-------|---------------|-----------|----------------|------|
| | | | T: Tunable | MFPT |
| | | | P:Picosecond | MFPP |
| | | | F: Femtosecond | MFPF |
| | | | N Nano | MFPN |



3-

第四章 详细规格

1 -

:1

| | MFPN- 20M-0.7 | MFPN- 25M-0.6 | MFPN- 30M-1 | MFPN- 50M-1.1 | MFPN- 70M-1.5 | MFPN- 100M-1.5 | |
|------|-------------------|--------------------|-------------------|--------------------|--------------------|--------------------|-----|
| | | | | | | | |
| | 1060~1070 | | | | | | nm |
| @ 25 | 18.5± 0.5 | 25± 0.5 | 31± 1 | 51± 1 | 73± 3 | 105± 5 | W |
| | 27~60 | 40~60 | 30~60 | 45~170 | 50~170 | 20~200 | kHz |
| | 90± 10 @ 27kHz | 100± 20 @ 40kHz | 70~100 @ 30kHz | 100± 10 @ 45kHz | 120± 20 @ 50kHz | 170± 20 @ 65kHz | ns |
| M2 | 1.5 | 1.5 | 1.6 | 1.6 | 1.6 | 1.6 | / |
| | 27 | 40 | 30 | 45 | 50 | 65 | kHz |
| | 0.7 | 0.6 | 1 | 1.1 | 1.5 | 1.5 | mJ |
| | 6.7 | 7.5 | 10 | 11 | 12.5 | 8.8 | kW |
| | 5 | | | | | | % |
| | 30 100 | | 10 100 | | | | % |
| | | | | | | | / |

| | | | | |
|------|--------|-----|-------|----|
| 1/e2 | 6-8 | 5-8 | 6 ~ 8 | mm |
| | 90 | | | % |
| | 1.9 | 3 | | m |
| | 70-130 | | 130 | us |
| | 20-60 | | 130 | us |

2-

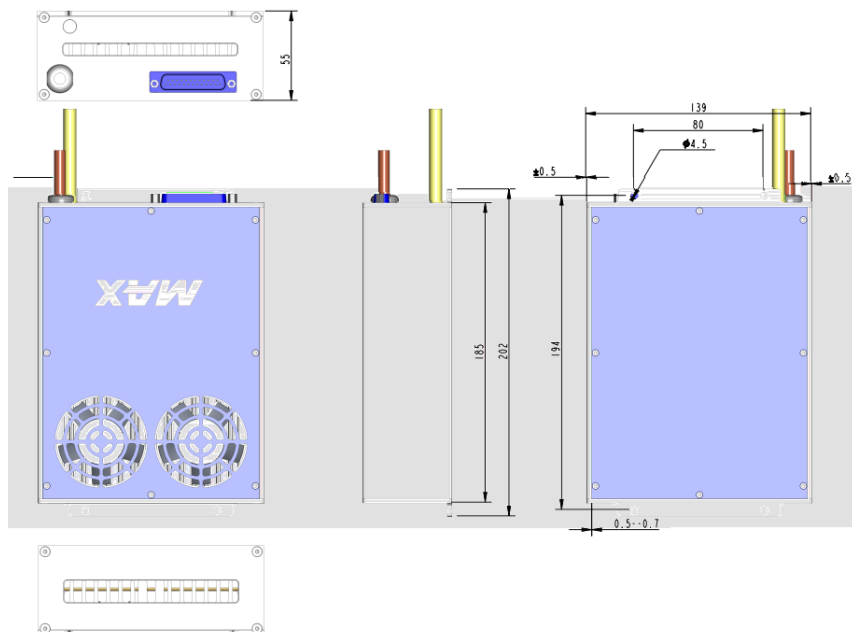
:1

| | MFPN-20M | MFPN-25M | MFPN-30M | MFPN-50M | MFPN-70M | MFPN-100M | |
|--|------------|------------|--------------|--------------|------------|------------|----|
| | 24 | | | | | | DC |
| | 80 | 110 | 120 | 200 | 360 | 410 | W |
| | | | | | | | |
| | | | | | | | |
| | 202*139*55 | 202*139*55 | 232*165*74.2 | 232*165*74.2 | 313*210*80 | 313*210*80 | mm |
| | 2 | 2.4 | 2.6 | 2.6 | 5 | 5 | kg |
| | 10 40 | | | | | | |
| | -10 +60 | | | | | | |
| | 10% 95% | | | | | | % |

3-

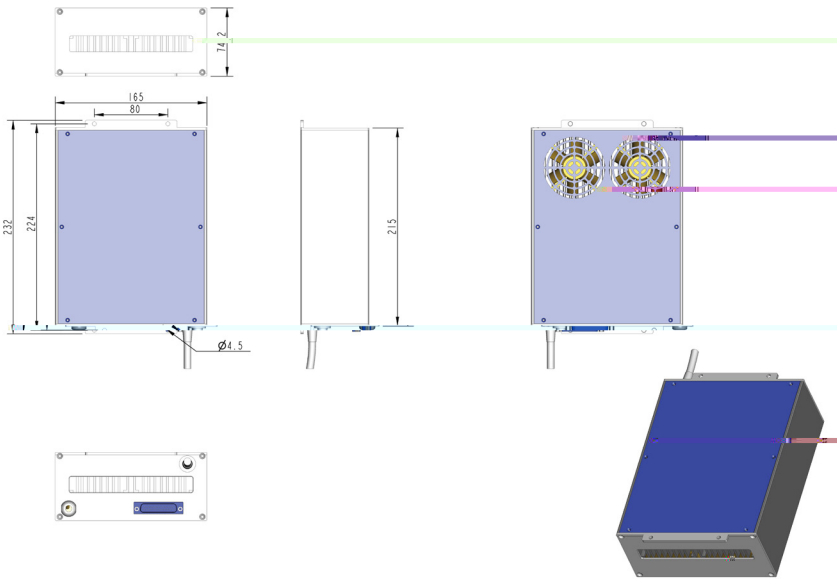
20-25M

mm



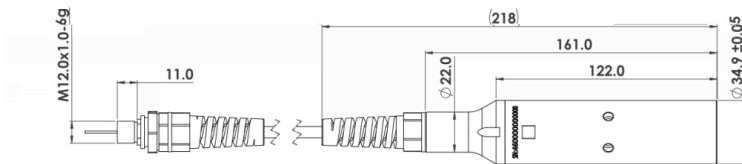
30-50M

mm



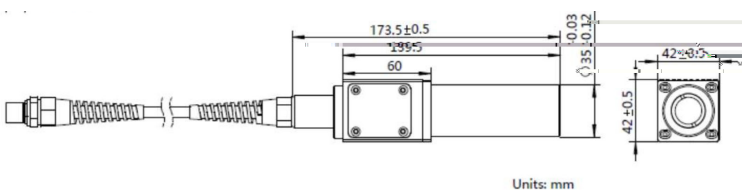
20-25M

mm



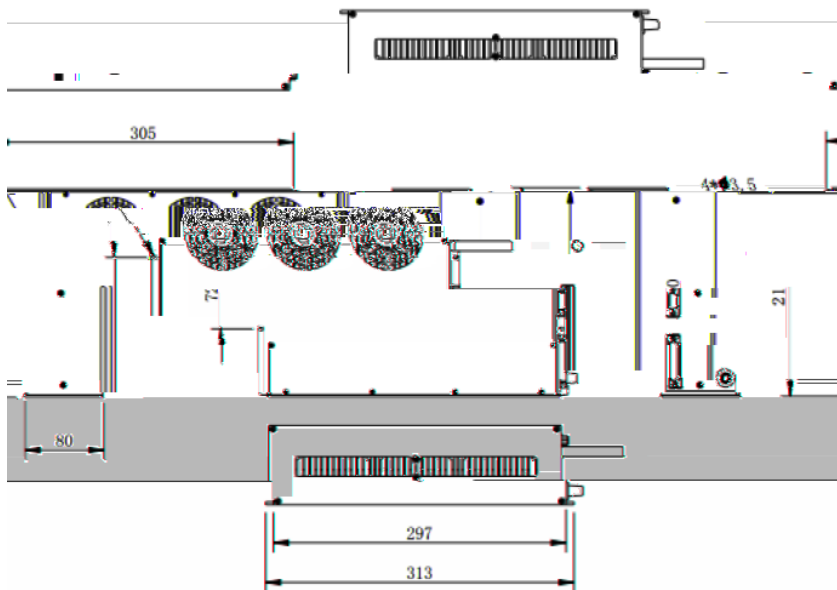
30-50M

mm



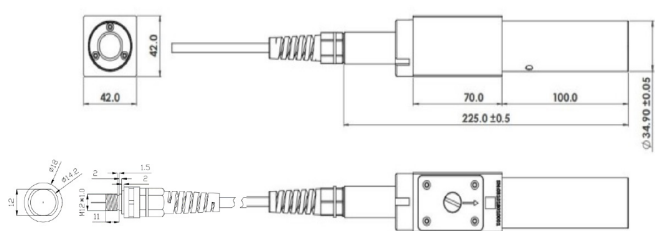
70-100M

mm



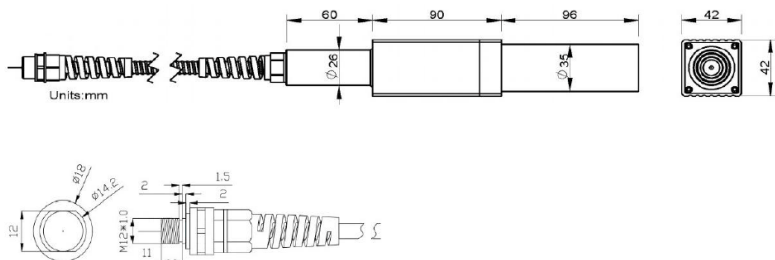
70M

mm



100M

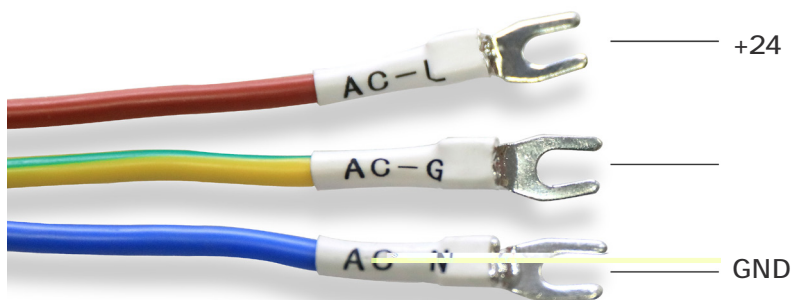
mm



第五章 使用指南

| | 1 |
|--|---|
| | 1 |

1-



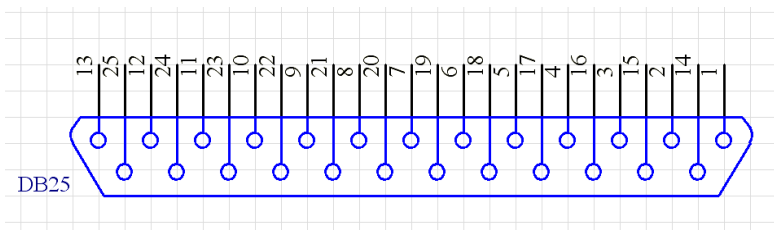
2-DB25

1

Pin TTL

TTL

| Pin# | |
|-----------|--|
| 1-8 D0-D7 | 16 0-FF 10 0-255 LSB(D0) Pin1, MSB(D7) Pin8 - 00h(0): - FFh(255): - 00h. |
| 9 | Latch |
| 10-15 | |
| 16 21 | Pin16 Pin21 |
| | L L |
| | L H |
| | H H MO |
| | H L PD |
| 18 | MO - H MO - L MO |
| 19 | Booster / - H Booster - L Booster |
| 20 | PRR 0.1~0.9 |
| 22 | / - H - L |
| 23 | OK(- L STOP(|



2 DB-25

1 DB25 5.2.1

2 Pin1~8 8bit Pin1 LSB Pin8 MSB Pin
 0-255 0-100%

| | 1 | 2 | 3 | 4 | 5 |
|---|-----|-----|-------|--------|------|
| 1 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 1 | 1 |
| 6 | 0 | 0 | 1 | 1 | 1 |
| 7 | 0 | 1 | 1 | 1 | 1 |
| 8 | 1 | 1 | 1 | 1 | 1 |
| | 50% | 75% | 87.5% | 93.75% | 100% |
| | 35% | 65% | 85% | 92% | 100% |

3 Pin16 Pin21 2Pin

| 16 | 21 | |
|----|----|----|
| L | H | |
| H | H | MO |

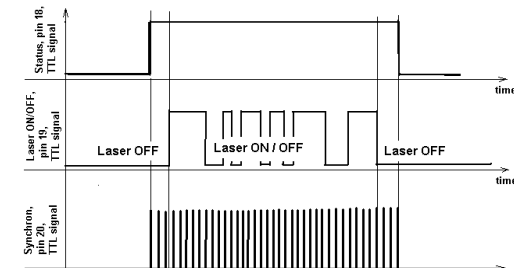
4 Pin18 MO MO Booster BS

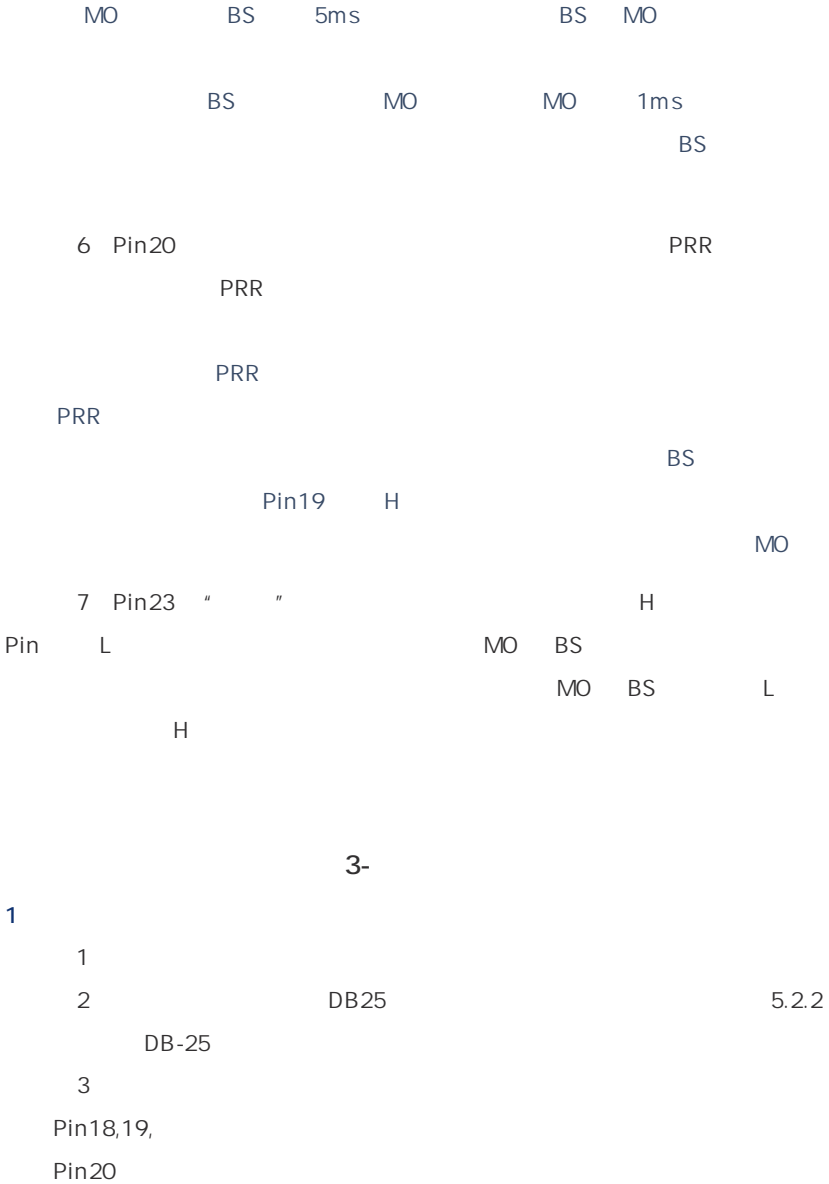
5ms MO

5 Pin19 Booster BS H

BS L BS Pin19 H

L





| | | | | | | | | |
|----------|--------|-------|-------|--------|-------|-------|-------|------|
| 4 | 24VDC | | | | | | | +24V |
| 5 | | 24VDC | | | | | | |
| | | 24VDC | | | | | | |
| 6 | | Pin23 | H | | | | | |
| 7 | Pin1~8 | | | | | | | |
| 8 | Pin18 | H | | MO | | | | |
| 9 | 5ms | | | | | | | |
| 10 | Pin19 | | | | | H/L | | |
| | / | | | | | 4 | | |
| | | | | / | | | 250us | |
| 500us | | 2kHz | | | | | | |
| 11 | | | | | | | | |
| 20ms | | MO | | | MO | | | MO |
| 12 | | | BS | MO | Pin18 | Pin19 | | L |
| 13 | 24VDC | | | | | | | |
| 2 | | | | | | | | |
| 1 | | | | Pin20 | PRR | | PRR | |
| | | | | | PRR | | | |
| | 20kHz | | | 50us | | | | |
| | PRR | | | | | | | |
| 2 | | | | Pin1~8 | | | | |
| 3 | Pin18 | H | Pin19 | L | | | 20mW | |

4
Pin21

+55

+55
Pin16

4-

MFP

Q

| SAMight | | | | |
|---------|---|-----|------|----|
| | / | | | |
| 1 | | 50 | 100 | Us |
| 2 | | 50 | 100 | Us |
| 3 | | 50 | 100 | Us |
| 4 | | -60 | -150 | Us |
| 5 | | 60 | 150 | Us |

| EzCad | | | | |
|-------|---|-----|------|----|
| | / | | | |
| 1 | | 50 | 150 | Us |
| 2 | | 50 | 150 | Us |
| 3 | | -50 | -200 | Us |
| 4 | | 20 | 150 | Us |
| 5 | | 60 | 150 | Us |

| | / | | | |
|---|---|-----|------|----|
| 1 | | 50 | 100 | Us |
| 2 | | 50 | 100 | Us |
| 3 | | 20 | 100 | Us |
| 4 | | -50 | -200 | Us |
| 5 | | 50 | 150 | Us |

5-

| | 20X | 20W | 20H | 30X | 30W | 30H | 30H | 50X | 50W | 50H | 70W |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| F=100 | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ |
| F=160 | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ |
| F=254 | A | A | A | A | A+ | A+ | A+ | A+ | A+ | A+ | A+ |
| F=330 | B | B | B | B | A | A | A | A | A | A+ | A+ |
| F=420 | C | C | C | C | C | B | B | B | A | A | A |
| F=525 | D | D | D | D | D | C | C | C | C | C | B |

A+:

A

A+

B

C

D

第六章 常见故障处理

| NO | | | |
|----|--|------|------------------------------|
| 1 | | | 1. +24V GND |
| | | | 2. |
| | | | 3. PIN18 PIN19 |
| | | | 4. DB25 |
| | | | 5. PIN23 |
| | | | 6. |
| | | | 7. |
| | | | 8. |
| | | DB25 | 9. PIN22 "0" ("1") |
| | | | 10. DB25 |
| | | | 11. |
| | | | 12. |

| NO | | | |
|----|--|--|----------|
| 2 | | | 1. |
| | | | 2. |
| | | | 3. |
| | | | 4. 2 |
| | | | 5. |
| | | | 6. |
| | | | 7. |
| | | | 8. |
| 3 | | | 1. |
| | | | 2. |
| | | | 3. 25 |
| | | | 4. 45-47 |
| | | | 5. 45-47 |

| NO | | | | |
|----|--|----------------|-------------------------|-------|
| 7 | | | 1. | |
| | | | 2. | |
| | | | 3. | 53 |
| | | | 4. | 19 |
| 5. | | | | |
| 8 | | | 1. 15-20mW | |
| 9 | | DB25 | 1. DB25 | |
| | | | 2. | |
| 10 | | | 1. | |
| | | | 2. | 53 |
| | | PIN16 PIN21 | 3. PIN16 PIN21 PIN21 | PIN16 |

第七章 服务与维修

1-

2-

400-900-9588

第八章 保修声明

1 -

2 -

1
2
3
4
5
6