



**AC-DC Converter • DC-DC Converter • Isolation Transmitter  
IGBT Driver • LED Driver • EMC Auxiliary Device**

## Selection Guide 2016

More information, please visit:

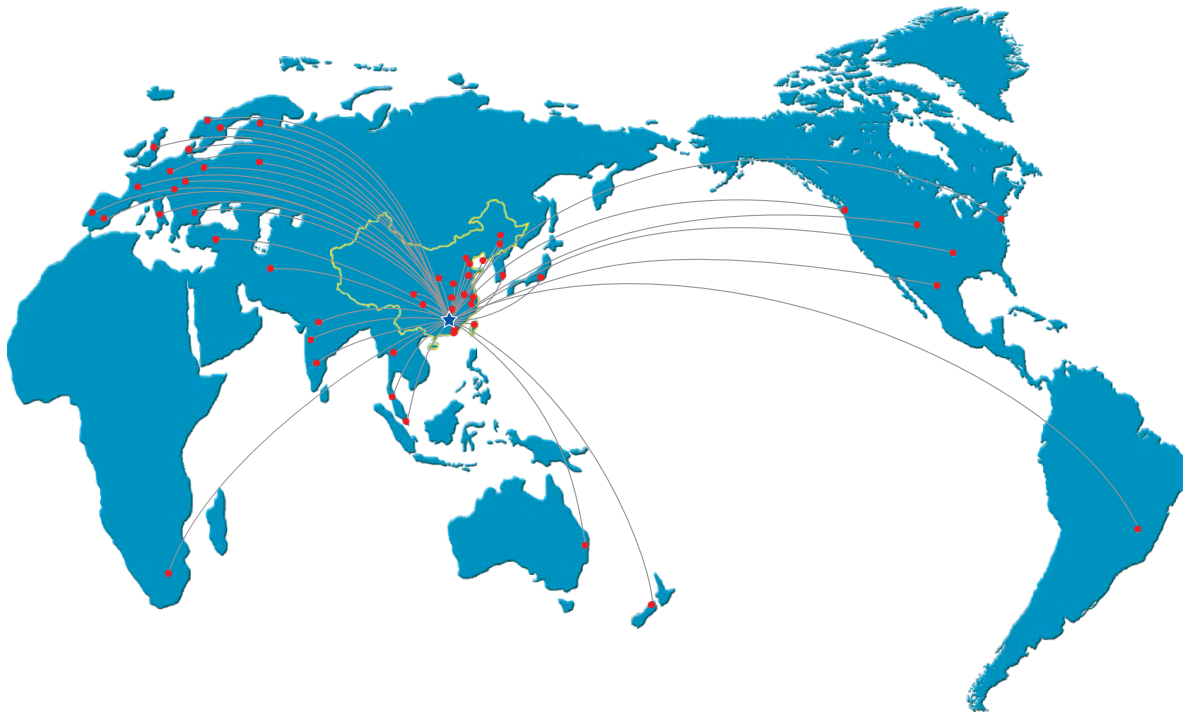
[www.mornsun-power.com](http://www.mornsun-power.com)



Taiwan distributor:  
Macsoni Technology  
Tel:+886 6 7228771  
Fax:+886 6 7228731  
Email: [sales1@macsoni.com](mailto:sales1@macsoni.com)  
URL:<http://www.macsoni-tech.com>



## Distributions & Channels



China



Hong Kong



Australia



Austria



Benelux



Brazil



Bulgaria



Czech Republic



Denmark



Finland



France



Germany



India



Iran



Israel



Italy



Japan



Korea



Malaysia



New Zealand



Norway



Poland



Portugal



Russia



Singapore



South Africa



Spain



Sweden



Switzerland



Thailand



Turkey



United Kingdom



United States



Mexico



Canada

- Established: 1998
- Employee: 1700+
- Information Management: ERP & CRM & OA & PDM
- Certification: ISO9001:2008, TS16949, ISO14001, OHSMS18001
- Factory: 45000+ square meters
- Patent: 300+
- Registered Capital: USD \$30+ million
- Business Coverage: Global



Headquarter in Guangzhou



Manufacturing Center in Guangzhou



Manufacturing Center in Huaihua



R&D Center in Guangzhou

## Product Range

- Power Range: 0.25W~240W
- Isolation Voltage: 1000VDC~12000VDC / 2000VAC~4000VAC
- Input Voltage Range: DC: 3.3~1400VDC AC: 30~528VAC
- Package: SIP, DIP, SMD, Wire lead, Open frame, Chassis mounting, DIN-Rail mounting

## Applications



Industrial



Power Grid



Communication



Transportation



Lighting



Medical



IOT(Internet of Things)



Fire & Security

## Certifications



REACH



## Excellent Technology

- Automatic welding machine
- Intelligent burn-in system
- Reliability laboratory
- Laser marking system
- Reflow soldering equipment
- X fluorescence RoHS tester
- EMC testing system
- Multiaxial automatic winding machine
- SMT AOI



Automatic TE workshop



Automatic SMT clean room

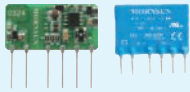
# AC-DC Converter



- Target for new energy, electric power industry, smart grid, instrumentation application
- Cost effective, high reliability, high efficiency, high isolation
- Low power consumption, low ripple & noise
- SIP, DIP, open frame, chassis mounting, DIN-Rail mounting
- EMC meets EN55022 & IEC61000
- Multiple protection: over-current, over-voltage, and short-circuit protection
- RoHS, CB, CE, UL certified

## LS Series, 1~5W

### SIP Package



| Series            | Power | Input Voltage        | Output Voltage (VDC) | Isolation | Certification |
|-------------------|-------|----------------------|----------------------|-----------|---------------|
| LS01-15B_SS       | 1W    | 85~264VAC/70~400VDC  | 5,9,12,15,24         | 3000VAC   | RoHS  CE      |
| LS03-15B_SR2S(-F) | 3W    | 85~264VAC/70~400VDC  | 3.3,5,9,12,15,24     | 3000VAC   | RoHS  CE CB   |
| LS03-16B_SS       | 3W    | 85~528VAC/100~745VDC | 5,12,24              | 3000VAC   | RoHS  CE      |
| LS05-15B_SS       | 5W    | 85~264VAC/100~400VDC | 3.3,5,9,12,15,24     | 3000VAC   | RoHS  CE CB   |

## LD Series, 3~20W



| Series      | Power | Input Voltage        | Output Voltage (VDC) | Isolation | Certification |
|-------------|-------|----------------------|----------------------|-----------|---------------|
| LD03-10B_R2 | 3W    | 85~264VAC/100~370VDC | 3.3,5,9,12,15,24     | 3000VAC   | RoHS  CE CB   |
| LD05-20B_MU | 5W    | 85~264VAC/100~370VDC | 5,12,15,24           | 4000VAC   | RoHS  CE      |
| LD05-20B    | 5W    | 85~264VAC/100~370VDC | 3.3,5,9,12,15,24     | 4000VAC   | RoHS  CE CB   |
| LD05-23B    | 5W    | 85~305VAC/100~430VDC | 3.3,5,9,12,15,24     | 4000VAC   | RoHS  CE CB   |
| LD10-20B    | 10W   | 85~264VAC/100~370VDC | 3.3,5,9,12,15,24     | 4000VAC   | RoHS  CE      |
| LD12-20B    | 12W   | 85~264VAC/100~370VDC | 3.3,5,12,15,24       | 4000VAC   | RoHS  CE      |
| LD20-10B    | 20W   | 85~264VAC/100~370VDC | 3.3,5,12,15,24       | 3000VAC   | RoHS  CE      |

## LH Series, 5~60W



| Series   | Power | Input Voltage        | Output Voltage (VDC) | Isolation | Certification |
|----------|-------|----------------------|----------------------|-----------|---------------|
| LH05-10B | 5W    | 85~264VAC/100~370VDC | 3.3,5,9,12,15,24     | 3000VAC   | RoHS  CE      |
| LH05-13B | 5W    | 85~305VAC/100~430VDC | 3.3,5,9,12,15,24     | 3000VAC   | RoHS  CE CB   |
| LH10-10B | 10W   | 85~264VAC/100~370VDC | 3.3,5,9,12,15,24     | 3000VAC   | RoHS  CE CB   |
| LH10-13B | 10W   | 85~305VAC/100~430VDC | 3.3,5,9,12,15,24     | 3000VAC   | RoHS  CE CB   |
| LH15-10B | 15W   | 85~264VAC/100~370VDC | 3.3,5,9,12,15,24     | 3000VAC   | RoHS  CE CB   |
| LH15-13B | 15W   | 85~305VAC/100~430VDC | 3.3,5,9,12,15,24,48  | 3000VAC   | RoHS  CE CB   |
| LH20-10B | 20W   | 85~264VAC/100~370VDC | 3.3,5,9,12,15,24     | 3000VAC   | RoHS  CE CB   |
| LH20-13B | 20W   | 85~305VAC/100~430VDC | 3.3,5,9,12,15,24     | 3000VAC   | RoHS  CE CB   |
| LH25-10B | 25W   | 85~264VAC/100~370VDC | 3.3,5,9,12,15,24,48  | 3000VAC   | RoHS  CE CB   |
| LH25-13B | 25W   | 85~305VAC/100~430VDC | 3.3,5,9,12,15,24,48  | 3000VAC   | RoHS  CE CB   |
| LH40-10B | 40W   | 85~264VAC/100~370VDC | 3.3,5,9,12,15,24     | 3000VAC   | RoHS  CE      |
| LH60-20B | 60W   | 90~264VAC/122~370VDC | 5,9,12,15,24,48      | 4000VAC   | RoHS  CE      |

## LI Series, 120/240W



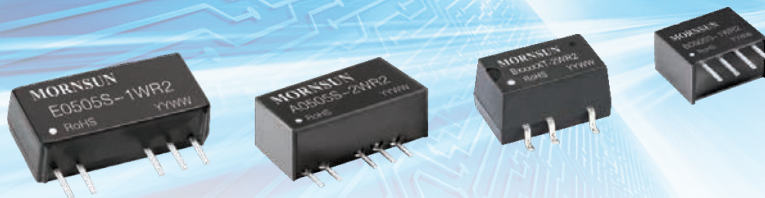
| Series    | Power | Input Voltage        | Output Voltage (VDC) | Isolation | Certification |
|-----------|-------|----------------------|----------------------|-----------|---------------|
| LI120-10B | 120W  | 85~264VAC/120~370VDC | 24                   | 3000VAC   | RoHS  CE CB   |
| LI240-10B | 240W  | 85~264VAC/120~370VDC | 24                   | 3000VAC   | RoHS  CE CB   |

## Special for Electric Power Industry



| Series   | Power | Input Voltage        | Output Voltage (VDC) | Isolation | Certification |
|----------|-------|----------------------|----------------------|-----------|---------------|
| LM30-00J | 30W   | 85~264VAC/100~370VDC | 5/±12/24             | 2000VAC   | RoHS          |

# DC-DC Converter



- $\pm 5\%$ ,  $\pm 10\%$  input voltage tolerance
- Operating temperature up to  $105^{\circ}\text{C}$
- High isolation up to 6000VDC
- Low ripple & noise
- Continuous short-circuit protection  
except B/F\_XT-2WR2
- RoHS, CE, UL certified

## Fixed Input Voltage, Isolated & Unregulated Output Series

| SMD Package | Series    | Power   | Input Voltage (VDC) | Output Voltage (VDC)           | Isolation | Package | Certification |
|-------------|-----------|---------|---------------------|--------------------------------|-----------|---------|---------------|
|             | A_S-1WR2  | 1W      | 5,12,15,24          | $\pm 5, \pm 12, \pm 15$        | 1500VDC   | SIP     | RoHS          |
|             | B_LS-1WR2 | 1W      | 3.3,5,12,15,24      | 3.3,5,12,15,24                 | 1500VDC   | SIP     | RoHS          |
|             | B_S-1WR2  | 1W      | 3.3,5,12,15,24      | 3.3,5,12,15,24                 | 1500VDC   | SIP     | RoHS          |
|             | A_XT-1WR2 | 1W      | 5,12,15,24          | $\pm 5, \pm 12, \pm 15$        | 1500VDC   | SMD     | RoHS          |
|             | B_XT-1WR2 | 1W      | 3.3,5,12,15,24      | 3.3,5,12,15,24                 | 1500VDC   | SMD     | RoHS          |
|             | E_S-1WR2  | 1W      | 5,12,15,24          | $\pm 5, \pm 12, \pm 15$        | 3000VDC   | SIP     | RoHS          |
|             | F_S-1WR2  | 1W      | 3.3,5,12,15,24      | 3.3,5,12,15,24                 | 3000VDC   | SIP     | RoHS          |
|             | E_XT-1WR2 | 1W      | 5,12,15,24          | $\pm 5, \pm 12, \pm 15$        | 3000VDC   | SMD     | RoHS          |
|             | F_XT-1WR2 | 1W      | 3.3,5,12,15,24      | 3.3,5,12,15,24                 | 3000VDC   | SMD     | RoHS          |
|             | G_S-1WR2  | 1W      | 5,12,24             | $\pm 5, \pm 9, \pm 12, \pm 15$ | 3000VAC   | SIP     | RoHS          |
| <br><br>    | H_S-1WR2  | 1W      | 5,12,24             | 5,12,15                        | 3000VAC   | SIP     | RoHS          |
|             | A_S-2WR2  | 2W      | 5,12,15,24          | $\pm 5, \pm 12, \pm 15$        | 1500VDC   | SIP     | RoHS          |
|             | B_S-2WR2  | 2W      | 5,12,15,24          | 3.3,5,12,15,24                 | 1500VDC   | SIP     | RoHS          |
|             | B_XT-2WR2 | 2W      | 5,12,15,24          | 3.3,5,12,15,24                 | 1500VDC   | SMD     | RoHS          |
|             | F_XT-2WR2 | 2W      | 5,12,15,24          | 5,12,15,24                     | 3000VDC   | SMD     | RoHS          |
|             | E_S-2WR2  | 2W      | 5,12,15,24          | $\pm 5, \pm 12, \pm 15$        | 3000VDC   | SIP     | RoHS          |
|             | F_S-2WR2  | 2W      | 5,12,15,24          | 3.3,5,12,15,24                 | 3000VDC   | SIP     | RoHS          |
|             | G_S-2WR2  | 2W      | 5,12,24             | $\pm 5, \pm 9, \pm 12, \pm 15$ | 3000VAC   | SIP     | RoHS          |
|             | H_S-2WR2  | 2W      | 5,12,24             | 5,12,15                        | 3000VAC   | SIP     | RoHS          |
|             | H_RN-2W   | 2W      | 5,12,24             | 5,12,15                        | 6000VDC   | SIP     | RoHS          |
| H_LT-2W     | 2W        | 5,12,24 | 3.3,5,12,15         | 6000VDC                        | SMD       | RoHS    |               |

## Fixed Input Voltage, Isolated & Regulated Output Series

| SMD Package | Series     | Power | Input Voltage (VDC) | Output Voltage (VDC) | Isolation | Package | Certification |
|-------------|------------|-------|---------------------|----------------------|-----------|---------|---------------|
| <br>        | IB_XT-1WR2 | 1W    | 5,12,15,24          | 3.3,5,12,15          | 1500VDC   | SMD     | RoHS          |
|             | IB_LS-1W   | 1W    | 5,12,15,24          | 3.3,5,12,15,24       | 1000VDC   | SIP     | RoHS          |
|             | IF_S-1W    | 1W    | 5,12,24             | 5,12,15,24           | 3000VDC   | SIP     | RoHS          |
|             | IF_XT-1WR2 | 1W    | 5,12,24             | 5,12,15              | 3000VDC   | SMD     | RoHS          |
|             | IF_RT-1W   | 1W    | 5,12                | 5                    | 3000VDC   | SMD     | RoHS          |
|             | IF_RN-1W   | 1W    | 5,12                | 5                    | 3000VDC   | SIP     | RoHS          |
|             | IB_S-2W    | 2W    | 5,12,15,24          | 5,12,15              | 1000VDC   | SIP     | RoHS          |
|             | IF_S-2W    | 2W    | 5,12,24             | 5                    | 3000VDC   | SIP     | RoHS          |

## Wide Input Voltage, Non-isolated & Regulated Output Series

| SIP Package  | Series     | Current (mA)           | Input Voltage (VDC) | Output Voltage (VDC)     | Efficiency | Package | Certification |
|--------------|------------|------------------------|---------------------|--------------------------|------------|---------|---------------|
| <br><br><br> | K78-500R3  | 500, -300, -150        | 4.75-36             | 3.3,5,9,12,15,-5,-12,-15 | 95%        | SIP     | RoHS          |
|              | K78L-500R3 | 500, -300, -150        | 4.75-36             | 3.3,5,12,15,-5,-12,-15   | 95%        | SIP     | RoHS          |
|              | K78-1000   | 1000, -600, -400, -300 | 4.75-32             | 3.3,5,6,5                | 97%        | SIP     | RoHS          |
|              | K78-1500   | 1500                   | 4.75-18             | 3.3,5,6,5                | 95%        | SIP     | RoHS          |
|              | K78-2000   | 2000                   | 4.75-18             | 3.3,5,6,5                | 92%        | SIP     | RoHS          |
|              | K78-1000L  | 1000, -600, -400, -300 | 4.75-32             | -3.3,-5,-6,5             |            |         |               |
|              | K78-1500L  | 1500                   | 4.75-18             | 3.3,5,6,5                |            |         |               |
|              | K78-2000L  | 2000                   | 4.75-18             | 3.3,5,6,5                |            |         |               |

# DC-DC Converter



- 2:1, 4:1 input voltage range
- SIP, DIP, SMD, chassis mounting, DIN-Rail mounting
- Remote On/Off and output voltage trimming
- No overshoot voltage when switching
- EMI meets CISPR22/EN55022 CLASS A
- Continuous short-circuit protection, self-recovery
- RoHS, CB, CE, UL certified

## Wide Input Voltage, Isolated & Regulated Output Series

### Wide Input (2:1)

#### SIP Package



#### SMD Package



#### Chassis Mounting Package



#### DIN-Rail Mounting Package



#### DIP Package



| Series                       | Power | Input Voltage (VDC)    | Output Voltage (VDC)                      | Isolation | Package | Certification |
|------------------------------|-------|------------------------|---|-----------|---------|---------------|
| WRA_S-1WR2<br>WRB_S-1WR2     | 1W    | 4.5~9,9~18,18~36,36~75 | ±5, ±9, ±12, ±15<br>3.3,5,9,12,15,24      | 1500VDC   | SIP     | RoHS CE       |
| WRE_S-1WR2<br>WRF_S-1WR2     | 1W    | 4.5~9,9~18,18~36,36~75 | ±5, ±12, ±15<br>3.3,5,9,12,15,24          | 3000VDC   | SIP     | RoHS CE       |
| WRA_ZP-3WR2<br>WRB_ZP-3WR2   | 3W    | 4.5~9,9~18,18~36,36~75 | ±5, ±9, ±12, ±15, ±24<br>3.3,5,9,12,15,24 | 1500VDC   | DIP     | RoHS CE       |
| WRE_P-3WR2<br>WRF_P-3WR2     | 3W    | 4.5~9,9~18,18~36,36~75 | ±3.3, ±5, ±9, ±12, ±15<br>3.3,5,12,15,24  | 3000VDC   | DIP     | RoHS CE       |
| WRA_S-3WR2<br>WRB_S-3WR2     | 3W    | 4.5~9,9~18,18~36,36~75 | ±5, ±9, ±12, ±15, ±24<br>3.3,5,9,12,15,24 | 1500VDC   | SIP     | RoHS CE       |
| WRE_S-3WR2<br>WRF_S-3WR2     | 3W    | 4.5~9,9~18,18~36,36~75 | ±5, ±9, ±12, ±15<br>3.3,5,9,12,15,24      | 3000VDC   | SIP     | RoHS CE       |
| VRA_ZP-6WR3<br>VRB_ZP-6WR3   | 6W    | 9~18,18~36,36~75       | ±5, ±12, ±15<br>3.3,5,12,15,24            | 1500VDC   | DIP     | RoHS CE CB    |
| VRA_YMD-6WR3<br>VRB_YMD-6WR3 | 6W    | 9~18,18~36             | ±5, ±12, ±15<br>3.3,5,12,15,24            | 1500VDC   | DIP     | RoHS          |
| VRB_YMD-10WR3                | 10W   | 18~36                  | 3.3,5,12,15,24                            | 1500VDC   | DIP     | RoHS          |
| VRB_LD-15WR3                 | 15W   | 18~36                  | 5,12,15,24                                | 1500VDC   | DIP     | RoHS          |
| VRA_LD-20WR3<br>VRB_LD-20WR3 | 20W   | 18~36,36~75            | ±5, ±9, ±12, ±15<br>3.3,5,9,12,15,24      | 1500VDC   | DIP     | RoHS CE CB    |
| VRB_LD-30WR3                 | 30W   | 18~36,36~75            | 3.3,5,9,12,15,24                          | 1500VDC   | DIP     | RoHS CE CB    |
| VRB_LD-50W                   | 50W   | 18~36,36~75            | 3.3,5,12,15,24                            | 1500VDC   | DIP     | RoHS          |

### Ultra-wide Input (4:1)

| Series                         | Power | Input Voltage (VDC) | Output Voltage (VDC)                      | Isolation | Package | Certification |
|--------------------------------|-------|---------------------|---|-----------|---------|---------------|
| URB_MT-3WR3                    | 3W    | 9~36,18~75          | 5,12,15,24                                | 1500VDC   | SMD     | RoHS CE CB    |
| URA_ZP-6WR3<br>URB_ZP-6WR3     | 6W    | 9~36,18~75          | ±5, ±12, ±15, ±24<br>3.3,5,9,12,15,24     | 1500VDC   | DIP     | RoHS CE CB    |
| URA_YMD-6WR3<br>URB_YMD-6WR3   | 6W    | 9~36,18~75          | ±5, ±12, ±15, ±24<br>3.3,5,9,12,15,24     | 1500VDC   | DIP     | RoHS CE CB    |
| URE_P-6WR3                     | 6W    | 9~36                | ±5, ±12, ±15                              | 3000VDC   | DIP     | RoHS          |
| URF_P-6WR3                     | 6W    | 9~36,18~75          | 3.3,5,9,12,15,24                          | 3000VDC   | DIP     | RoHS CE CB    |
| URH_P-6WR3                     | 6W    | 9~36,18~75          | 5,9,12,15,24                              | 6000VDC   | DIP     | RoHS CE       |
| URA_YMD-10WR3<br>URB_YMD-10WR3 | 10W   | 9~36,18~75          | ±5, ±9, ±12, ±15, ±24<br>3.3,5,9,12,15,24 | 1500VDC   | DIP     | RoHS CE CB    |
| URE_LP-10WR3<br>URF_LP-10WR3   | 10W   | 9~36,18~75          | ±5, ±12, ±15<br>3.3,5,9,12,15,24          | 3000VDC   | DIP     | RoHS CE CB    |
| URA_LD-20WR3<br>URB_LD-20WR3   | 20W   | 9~36,18~75          | ±5, ±9, ±12, ±15<br>3.3,5,9,12,15,24      | 1500VDC   | DIP     | RoHS CE CB    |
| URF_LP-20WR3                   | 20W   | 9~36,18~75          | 3.3,5,9,12,15,24                          | 3000VDC   | DIP     | RoHS CE CB    |
| URB_LD-30WR3                   | 30W   | 9~36,18~75          | 3.3,5,9,12,15,24                          | 1500VDC   | DIP     | RoHS CE CB    |
| URF1D_QB-50W                   | 50W   | 66~160              | 5,12,15,24                                | 3000VDC   | DIP     | RoHS          |
| URF1D_QB-75W                   | 75W   | 66~160              | 5,12,15,24                                | 3000VDC   | DIP     | RoHS          |
| URF1D_QB-100W                  | 100W  | 66~160              | 12,15,24                                  | 3000VDC   | DIP     | RoHS          |
| URF1D_HB-150W                  | 150W  | 50~160              | 12,15,24                                  | 3000VDC   | DIP     | RoHS          |

# PV/IGBT Driver/LED Driver/EMC Auxiliary Device

## Ultra-wide Input Voltage DC-DC Converter

### DIP Package



| Series      | Power | Input Voltage (VDC) | Output Voltage (VDC)                | Isolation | Package | Certification |
|-------------|-------|---------------------|-------------------------------------|-----------|---------|---------------|
| PV05-27B_R2 | 5W    | 100~1000            | 5                                   | 4000VAC   | DIP     | RoHS CE       |
| PV10-27B_R2 | 10W   | 100~1000            | 5,9,24                              | 4000VAC   | DIP     | RoHS CE       |
| PV15-27B_R2 | 15W   | 100~1000            | 12,15,24                            | 4000VAC   | DIP     | RoHS CE       |
| PV40-27B    | 40W   | 200~1200            | 12,15,24                            | 4000VDC   | DIP     | RoHS          |
| PV45        | 45W   | 200~1400            | 12V/15V/24V duplex output available | 4000VAC   | DIP     | RoHS          |

## Hybrid Integrated IGBT Driver (Built-in Isolated DC-DC Converter)



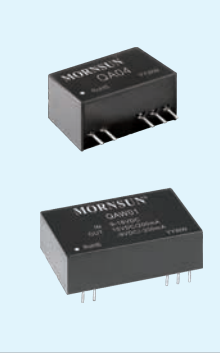
| Series      | VCE (max.) | Power Supply VCC(VDC) | Gate Voltage | Output peak current | Max. Frequency | Driving Channels | Isolation |
|-------------|------------|-----------------------|--------------|---------------------|----------------|------------------|-----------|
| QP12W08S-37 | 1700V      | 15                    | +15V/-9V     | ±8A                 | 20KHz          | 1                | 3750VAC   |

## Hybrid Integrated IGBT Driver



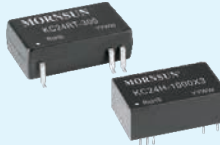
| Series   | VCE (max.) | Power Supply VCC(VDC) | Power Supply VEE(VDC) | Gate Voltage | Output peak current | Max. Frequency | Driving Channels | Isolation |
|----------|------------|-----------------------|-----------------------|--------------|---------------------|----------------|------------------|-----------|
| QC962-8A | 1700V      | 15                    | -10                   | +15V/-9V     | ±8A                 | 40KHz          | 1                | 3750VAC   |

## DC-DC Converter for IGBT Driver



| Series   | Input Voltage (VDC) | Input Range (VDC) | Positive/Negative Output(VDC) | Output Current(mA) | Isolation Capacitance (Typ) | Efficiency | Isolation |
|----------|---------------------|-------------------|-------------------------------|--------------------|-----------------------------|------------|-----------|
| QA01     | 15                  | 14.5~15.5         | +15/-8.7                      | +80/-40            | 6.6pF                       | 80%        | 3000VAC   |
| QA01C    | 15                  | 13.5~16.5         | +20/-4                        | +100/-100          | 3.5pF                       | 83%        | 3500VAC   |
| QA01-09  | 15                  | 14.5~15.5         | +9                            | +111               | 6.6pF                       | 80%        | 3000VAC   |
| QA01-A09 | 15                  | 14.5~15.5         | +9/-9                         | +55/-55            | 6.6pF                       | 80%        | 3000VAC   |
| QA01-17  | 15                  | 14.5~15.5         | +17/-8.7                      | +80/-40            | 6.6pF                       | 80%        | 3000VAC   |
| QA02     | 12                  | 11.6~12.4         | +15/-8.7                      | +80/-40            | 6.6pF                       | 80%        | 3000VAC   |
| QA03     | 24                  | 23.3~24.7         | +15/-8.7                      | +80/-40            | 6.6pF                       | 80%        | 3000VAC   |
| QA04     | 12                  | 9~15              | +15/-8                        | +100/-80           | 6.6pF                       | 80%        | 3000VAC   |
| QAW01    | 12                  | 9~18              | +15/-9                        | +200/-200          | 100pF                       | 85%        | 3000VDC   |
| QAW02    | 24                  | 18~36             | +15/-9                        | +200/-200          | 100pF                       | 85%        | 3000VDC   |

## LED Driver



| Series     | Input Voltage (VDC) | Output Voltage (VDC) | Output Current (mA) | Efficiency | Package |
|------------|---------------------|----------------------|---------------------|------------|---------|
| KC24RT     | 5.5~48              | 3.3~36               | 700                 | 96%        | SMD     |
| KC24H-1000 | 5.5~48              | 3.3~36               | 1000                | 97%        | DIP     |
| KC24H-1200 | 5.5~48              | 3.3~36               | 1200                | 97%        | DIP     |

## EMC Auxiliary Device



| Series    | Function                           | Input Voltage | Power/Current (Max.) | Feature                   |
|-----------|------------------------------------|---------------|----------------------|---------------------------|
| FC-LX1D   | EMC filter                         | 85~305VAC     | 1.5A                 | Used with AC-DC converter |
| FC-LX1D2  | EMC filter                         | 85~305VAC     | 1.5A                 | Used with AC-DC converter |
| FC-L01DV1 | EMC filter                         | 85~305VAC     | 0.3A                 | Used with AC-DC converter |
| FC-A01D   | EMC filter                         | 9~36VDC       | 1A                   | Used with DC-DC converter |
| FC-AX3D   | EMC filter                         | 10~36VDC      | 30W                  | Used with DC-DC converter |
| FC-B01D   | EMC filter                         | 18~75VDC      | 1A                   | Used with DC-DC converter |
| FC-B02D   | EMC filter                         | 18~75VDC      | 30W                  | Used with DC-DC converter |
| FC-C01D   | EMC filter                         | 40~160VDC     | 10W                  | Used with DC-DC converter |
| FC-CX1D   | EMC filter                         | 40~160VDC     | 30W                  | Used with DC-DC converter |
| FC-C03D   | EMC filter                         | 40~160VDC     | 50W                  | Used with DC-DC converter |
| FC-CX3D   | EMC filter                         | 66~160VDC     | 100W                 | Used with DC-DC converter |
| FC-D03D   | EMC filter                         | 18~36VDC      | 50W                  | Used with DC-DC converter |
| FC-E03D   | EMC filter                         | 36~75VDC      | 75W                  | Used with DC-DC converter |
| FI-B03D   | EMI filter                         | 0~80VDC       | 3A                   | Used with DC-DC converter |
| FS-TD01D  | 485-AB bus surge protection module | 0~5VDC        | 0.1A                 | /                         |
| FS-A01D   | Surge suppressor                   | 0~40VDC       | 0.6A                 | Used with DC-DC converter |
| FT-BX1D   | EFT suppressor                     | 0~80VDC       | 1.5A                 | /                         |
| FL2D      | Common mode filter                 | /             | 0.5,1,3A             | /                         |

# Isolation Transmitter

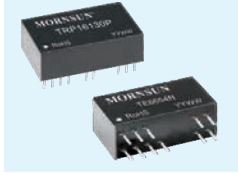
## Industrial Bus Isolation Transceiver Module



| Series           | Function                                   | Power Supply          | Data Rate   | Temperature | Package |
|------------------|--|-----------------------|-------------|-------------|---------|
| TD301/501DCANH3  | Single high rate CAN (enhanced version)    | 3.0~3.6V/4.5~5.5V     | 0~1Mbps     | -40~+105°C  | DIP8    |
| TD301/501D232H   | Single high rate 232                       | 3.0~3.6V/4.5~5.5V     | 0~115.2Kbps | -40~+85°C   | DIP8    |
| TD302/502D232H   | Dual high rate 232                         | 3.0~3.6V/4.5~5.5V     | 0~115.2Kbps | -40~+105°C  | DIP12   |
| TD301/501D485    | Single low rate 485                        | 3.17~3.45V/4.75~5.25V | 0~9.6Kbps   | -40~+85°C   | DIP10   |
| TD301/501D485H   | Single high rate 485                       | 3.17~3.45V/4.75~5.25V | 0~200Kbps   | -40~+85°C   | DIP10   |
| TD301/501D485H-A | Single high rate 485 (automatic switching) | 3.17~3.45V/4.75~5.25V | 0~115.2Kbps | -40~+85°C   | DIP10   |
| TD301/501D485H-E | Single high rate 485 (enhanced version)    | 3.17~3.45V/4.75~5.25V | 0~500Kbps   | -40~+85°C   | DIP10   |
| TDH301/501D485H  | Dual double isolation high rate 485        | 3.17~3.45V/4.75~5.25V | 0~115.2Kbps | -40~+85°C   | DIP10   |

## Signal Conditioning Module

### DIP Package



### SIP Package



| Series   | Function                                       | Input Signal                | Output Signal         | Isolation | Package |
|----------|--|-----------------------------|-----------------------|-----------|---------|
| T1100L   | Passive module                                 | 4~20mA                      | 4~20mA                | 3000VDC   | SIP12   |
| T1100L-F | Passive module (loop power supply)             | 4~20mA                      | 4~20mA                | 3000VDC   | SIP12   |
| T_HL     | Two-wire self-powered module with HART         | 0~2.5V                      | 3.7~22mA              | 2000VAC   | SIP9    |
| T_L      | Two-wire loop power supply                     | 0~2.5V                      | 3.7~22mA              | 2000VAC   | SIP9    |
| TE_N     | Active module                                  | 0~5V, 0~10V, 4~20mA         | 0~5V, 0~10V           | 2000VAC   | DIP18   |
| TF_N     | Active module                                  | 0~5V, 0~10V                 | 0~5V, 0~10V, 4~20mA   | 2000VAC   | DIP18   |
| TE_CN    | Active module positive and negative signal     | ±5V, ±10V                   | ±5V, ±10V             | 2000VAC   | DIP18   |
| TE_AN    | Active module positive and negative signal     | ±5V, ±10V                   | 0~5V, 0~10V           | 2000VAC   | DIP18   |
| TEM_CN   | Active, mV-class, positive and negative signal | ±50mVDC, ±100mVDC, ±200mVDC | ±5VDC, ±10VDC         | 2000VAC   | DIP18   |
| TEM_AN   | Active, mV-class, positive and negative signal | ±75mVDC, ±100mVDC           | 0~5V                  | 2000VAC   | DIP18   |
| TRP_P    | RTDs detection type isolated module            | Pt100 (0~200°C)             | 4~20mA                | 2000VAC   | DIP24   |
| T_P      | Active module                                  | 0/4~20mA, 0~5V, 0~10V       | 0/4~20mA, 0~5V, 0~10V | 2500VDC   | DIP24   |

## Signal Isolator / Isolation Barrier



Ultra-thin Signal Isolator



Ultra-thin Isolation Barrier

| Series                         | Function  | Input Signal                          | Output Signal   | Feature                     |
|--------------------------------|---|---------------------------------------|---|-----------------------------|
| TAx0W                          | Analog signal                                       | 0/4~20mA, 0/1~5V, 0/2~10V             | 0/4~20mA, 0/1~5V, 0/2~10V                                     | DIN-Rail power supply       |
| TAx05W                         | DC current input analog signal                      | 0/4~20mA                              | 0/4~20mA, 0/1~5V, 0/2~10V                                     | DIN-Rail power supply       |
| TAx06W                         | Passive Barrier                                     | 4~20mA                                | 4~20mA  | /                           |
| TAx0PW                         | DC current/voltage input programmable analog signal | 0/4~20mA, 0/1~5V, 0/2~10V             | 0/4~20mA, 0/1~5V, 0/2~10V                                     | DIN-Rail power supply       |
| TAx5PW                         | DC current input programmable analog signal         | 0/4~20mA, 0/1~5V, 0/2~10V             | 0/4~20mA, 0/1~5V, 0/2~10V                                     | DIN-Rail power supply       |
| TRx0PW                         | Programmable RTD                                    | Pt100, Cu50, Cu100                    | 0/4~20mA, 0/1~5V, 0/2~10V                                     | DIN-Rail power supply       |
| TR1x0PWE                       | Programmable RTD                                    | Pt100, Cu50, Cu100                    | 0/4~20mA, 0/1~5V, 0/2~10V                                     | DIN-Rail power supply       |
| TCx0PW                         | Programmable thermocouple                           | R,S,K,J,T,B,E thermocouple, mV signal | 0/4~20mA, 0/1~5V, 0/2~10V                                     | DIN-Rail power supply       |
| TA_W-EX                        | Analog detection type                               | 4~20mA, 0~10V                         | 0/4~20mA, 0~10V   | HART, DIN-Rail power supply |
| TAF_W-EX                       | Analog operation type                               | 4~20mA                                | 4~20mA  | HART, DIN-Rail power supply |
| TS_W-EX                        | Switch detection type                               | Switch input                          | TSx00W-EX-xx: Relay output<br>TSx01W-EX-xx: Transistor output | DIN-Rail power supply       |
| TSF_W-EX                       | Switch operation type                               | Switch input                          | 12V/44mA  | DIN-Rail power supply       |
| TC_PW-EX                       | Programmable thermocouple                           | R,S,K,J,T,B,E thermocouple, mV signal | 0/4~20mA, 0/1~5V, 0/2~10V                                     | DIN-Rail power supply       |
| TR_PW-EX                       | Programmable RTD                                    | Pt100, Cu50, Cu100                    | 0/4~20mA, 0/1~5V, 0/2~10V                                     | DIN-Rail power supply       |
| TD100W-EX-485<br>TD101W-EX-485 | RS485 communication signal                          | RS485 digital signal                  | RS485/RS232 digital signal                                    | Digital signal              |