

# Thyristor & Diode Modules

IXYS UK's range of isolated base pressure contact thyristor and diode modules, designed to industry standard outlines is perfect for all your needs.

Available in 9 standard configurations, all devices offer full pressure contact construction for maximum reliability and performance at rated current.

These products have a  $V_{RRM}/V_{DRM}$  between 1200V to 3600V and are available as dual thyristor, dual diode or thyristor/diode options. Single diode/single thyristor options are also available.

## New for 2016

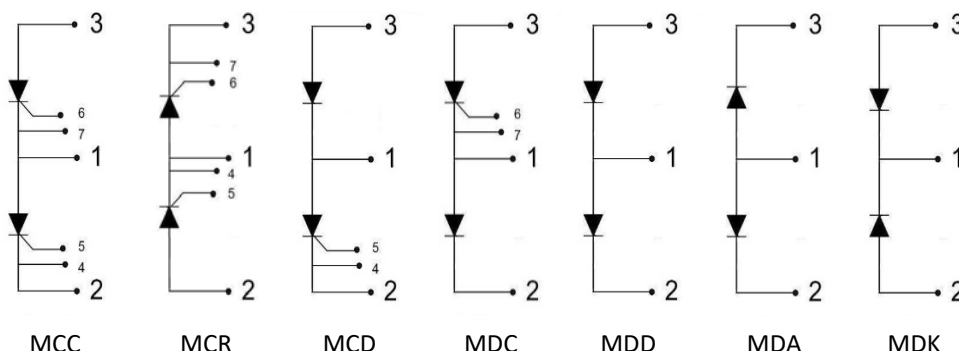
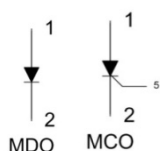
Continuing its long tradition of product improvement and innovation, IXYS UK is proud to introduce additions to its standard range of power modules, including a new 327A, 3600V io2 pressure contact module and a new range of smaller io3/N3 modules with current ratings from 160A-544A and voltage ratings from 1400V-3600V.

## Features and benefits

- $V_{RRM}/V_{DRM}$  up to 3600V
- Electrically isolated baseplate
- Industry standard package
- UL recognition
- Simplifies mechanical design
- Rapid assembly
- Full pressure contact construction



2 configuration of single diode/thyristor available



## Applications

- Soft Starts
- Industrial Drives
- Wind Power Converters
- Welding
- Front End Rectifiers

## New io3/N3 range of pressure contact module

IXYS UK presents the newest addition to our pressure contact module range. This product is a smaller version of our highly successful io2/N2 range and benefits from the same high reliability construction.

These modules will be available in MCC (dual thyristor), MCD (thyristor/diode and MDC (diode/thyristor) configurations as well as MDD/MDA/MDK dual diode configurations.



### Dual Thyristor Modules

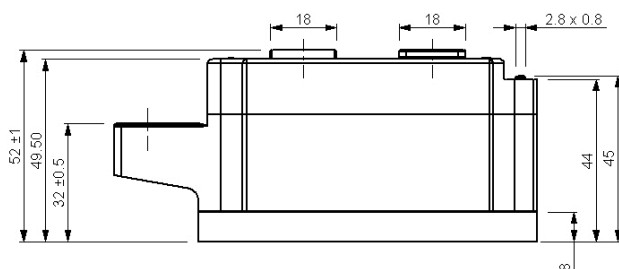
| Part No.     | $V_{RRM}$ | $I_{TAV}$ | @ $T_C$ | $I_{TRMS}$ | $I_{TSM}$   | $V_{TO}$ | $r_T$ | $T_{VJM}$ | $R_{thJC}$ | $R_{thCH}$ | Fig. No. |
|--------------|-----------|-----------|---------|------------|-------------|----------|-------|-----------|------------|------------|----------|
|              | $V_{DRM}$ |           |         |            | 125°C, 10ms |          |       |           | Per die    | Per die    |          |
|              | V         |           |         |            | A           |          |       |           | K/W        | K/W        |          |
| MCC160-xxio3 | 3000-3600 | 169       | 85      | 265        | 3600        | 1.200    | 2.300 | 125       | 0.110      | 0.0400     | W102     |
| MCC220-28io3 | 2800      | 237       | 85      | 370        | 4950        | 0.900    | 1.100 | 125       | 0.110      | 0.0400     | W102     |
| MCC265-24io3 | 2400      | 283       | 85      | 443        | 6840        | 0.800    | 0.700 | 125       | 0.110      | 0.0400     | W102     |
| MCC325-xxio3 | 1400-1800 | 327       | 85      | 765        | 5000        | 1.150    | 0.800 | 125       | 0.062      | 0.0200     | W102     |

### Dual Diode Modules

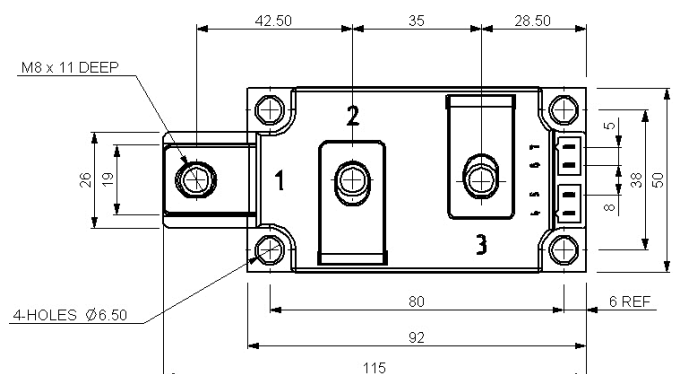
| Part No.    | $V_{RRM}$ | $I_{TAV}$ | @ $T_C$ | $I_{TRMS}$ | $I_{TSM}$   | $V_{TO}$ | $r_T$ | $T_{VJM}$ | $R_{thJC}$ | $R_{thCH}$ | Fig. No. |
|-------------|-----------|-----------|---------|------------|-------------|----------|-------|-----------|------------|------------|----------|
|             | $V_{DRM}$ |           |         |            | 125°C, 10ms |          |       |           | Per die    | Per die    |          |
|             | V         |           |         |            | A           |          |       |           | K/W        | K/W        |          |
| MDD275-xxN3 | 3000-3600 | 291       | 85      | 457        | 4500        | 0.900    | 1.570 | 150       | 0.1100     | 0.0400     | W102     |
| MDA275-xxN3 |           |           |         |            |             |          |       |           |            |            |          |
| MDK275-xxN3 |           |           |         |            |             |          |       |           |            |            |          |
| MDD410-xxN3 | 2400-2800 | 441       | 85      | 692        | 7650        | 0.850    | 0.450 | 150       | 0.1100     | 0.0400     | W102     |
| MDA410-xxN3 |           |           |         |            |             |          |       |           |            |            |          |
| MDK410-xxN3 |           |           |         |            |             |          |       |           |            |            |          |
| MDD510-xxN3 | 1400-1800 | 544       | 85      | 854        | 10800       | 0.750    | 0.250 | 150       | 0.1100     | 0.0400     | W102     |
| MDA510-xxN3 |           |           |         |            |             |          |       |           |            |            |          |
| MDK510-xxN3 |           |           |         |            |             |          |       |           |            |            |          |

### Thyristor/Diode Modules

| Part No.     | $V_{RRM}$ | $I_{TAV}$ | @ $T_C$ | $I_{TRMS}$ | $I_{TSM}$   | $V_{TO}$ | $r_T$ | $T_{VJM}$ | $R_{thJC}$ | $R_{thCH}$ | Fig. No. |
|--------------|-----------|-----------|---------|------------|-------------|----------|-------|-----------|------------|------------|----------|
|              | $V_{DRM}$ |           |         |            | 125°C, 10ms |          |       |           | Per die    | Per die    |          |
|              | V         |           |         |            | A           |          |       |           | K/W        | K/W        |          |
| MCD160-xxio3 | 3000-3600 | 169       | 85      | 265        | 3600        | 1.200    | 2.300 | 125       | 0.110      | 0.0400     | W102     |
| MDC160-xxio3 |           |           |         |            |             |          |       |           |            |            |          |
| MCD220-28io3 | 2800      | 237       | 85      | 370        | 4950        | 0.900    | 1.100 | 125       | 0.110      | 0.0400     | W102     |
| MDC220-28io3 |           |           |         |            |             |          |       |           |            |            |          |
| MCD265-24io3 | 2400      | 283       | 85      | 443        | 6840        | 0.800    | 0.700 | 125       | 0.110      | 0.0400     | W102     |
| MDC265-24io3 |           |           |         |            |             |          |       |           |            |            |          |
| MCD325-xxio3 | 1400-1800 | 327       | 85      | 765        | 5000        | 1.150    | 0.800 | 125       | 0.062      | 0.0200     | W102     |
| MDC325-xxio3 |           |           |         |            |             |          |       |           |            |            |          |



W102 – 150A125



## High Power Module Range

*Our new range of high power thyristor and diode modules expands on our current selection, with improved thermal and surge ratings. The dual thyristor and diode modules are also available in an MCR reverse configuration for ease of mounting two modules as an AC switch*



### Dual Thyristor Modules

| Part No.     | V <sub>RRM</sub> | I <sub>TAV</sub> | @ T <sub>C</sub> | I <sub>TRMS</sub> | I <sub>TSM</sub> | V <sub>T0</sub> | r <sub>T</sub> | T <sub>VJM</sub> | R <sub>thJC</sub> | R <sub>thCH</sub> | Fig. No. |
|--------------|------------------|------------------|------------------|-------------------|------------------|-----------------|----------------|------------------|-------------------|-------------------|----------|
|              | V <sub>DRM</sub> |                  |                  |                   | 125°C, 10ms      |                 |                |                  | Per die           | Per die           |          |
|              | V                | A                |                  | A                 | A                | V               | mΩ             | °C               | K/W               | K/W               |          |
| MCC500-xxio7 | 3000-3600        | 500              | 85               | 1181              | 18000            | 1.079           | 0.422          | 125              | 0.05              | 0.016             | W88      |
| MCR500-xxio7 | 3000-3600        | 500              | 85               | 1181              | 18000            | 1.079           | 0.422          | 125              | 0.0500            | 0.0160            | W88      |
| MCC580-28io7 | 2800             | 581              | 85               | 1372              | 21000            | 0.926           | 0.313          | 125              | 0.0500            | 0.0160            | W88      |
| MCR580-28io7 | 2800             | 581              | 85               | 1372              | 21000            | 0.926           | 0.313          | 125              | 0.0500            | 0.0160            | W88      |
| MCC650-24io7 | 2400             | 646              | 85               | 1542              | 24500            | 0.874           | 0.227          | 125              | 0.0500            | 0.0160            | W88      |
| MCR650-24io7 | 2400             | 646              | 85               | 1542              | 24500            | 0.874           | 0.227          | 125              | 0.0500            | 0.0160            | W88      |
| MCC720-xxio7 | 1400-1800        | 719              | 85               | 1633              | 28000            | 0.823           | 0.241          | 125              | 0.0500            | 0.0160            | W88      |
| MCR720-xxio7 | 1400-1800        | 719              | 85               | 1633              | 28000            | 0.823           | 0.241          | 125              | 0.0500            | 0.0160            | W88      |

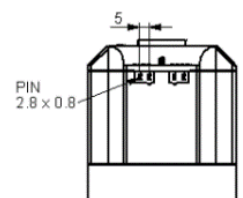
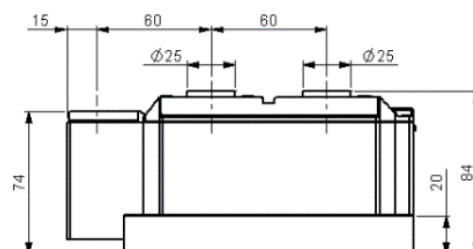
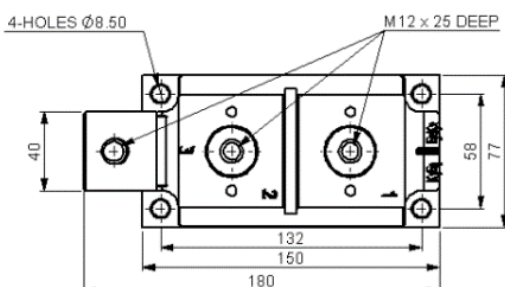
### Dual Diode Modules

| Part No.     | V <sub>RRM</sub> | I <sub>FAV</sub> | @ T <sub>C</sub> | I <sub>FRMS</sub> | I <sub>FSM</sub> | V <sub>T0</sub> | r <sub>T</sub> | T <sub>VJM</sub> | R <sub>thJC</sub> | R <sub>thCH</sub> | Fig. No. |
|--------------|------------------|------------------|------------------|-------------------|------------------|-----------------|----------------|------------------|-------------------|-------------------|----------|
|              | V                |                  |                  |                   | 125°C, 10ms      |                 |                |                  | Per die           | Per die           |          |
|              | V                | A                |                  | A                 | A                | V               | mΩ             | °C               | K/W               | K/W               |          |
| MDD1080-xxN7 | 1800-2800        | 1080             | 85               | 2235              | 32000            | 0.782           | 0.157          | 150              | 0.0500            | 0.0160            | W88      |
| MDA1080-xxN7 | 1800-2800        | 1080             | 85               | 2235              | 32000            | 0.782           | 0.157          | 150              | 0.0500            | 0.0160            | W88      |
| MDK1080-xxN7 | 1800-2800        | 1080             | 85               | 2235              | 32000            | 0.782           | 0.157          | 150              | 0.0500            | 0.0160            | W88      |

### Dual Thyristor Modules

| Part No.     | V <sub>RRM</sub> | I <sub>TAV</sub> | @ T <sub>C</sub> | I <sub>TRMS</sub> | I <sub>TSM</sub> | V <sub>T0</sub> | r <sub>T</sub> | T <sub>VJM</sub> | R <sub>thJC</sub> | R <sub>thCH</sub> | Fig. No. |
|--------------|------------------|------------------|------------------|-------------------|------------------|-----------------|----------------|------------------|-------------------|-------------------|----------|
|              | V <sub>DRM</sub> |                  |                  |                   | 125°C, 10ms      |                 |                |                  | Per die           | Per die           |          |
|              | V                | A                |                  | A                 | A                | V               | mΩ             | °C               | K/W               | K/W               |          |
| MCD500-xxio7 | 3000-3600        | 500              | 85               | 1181              | 18000            | 1.079           | 0.422          | 125              | 0.05              | 0.0160            | W88      |
| MDC500-xxio7 | 3000-3600        | 500              | 85               | 1181              | 18000            | 1.079           | 0.422          | 125              | 0.05              | 0.0160            | W88      |
| MCD580-28io7 | 2800             | 581              | 85               | 1372              | 21000            | 0.926           | 0.313          | 125              | 0.05              | 0.0160            | W88      |
| MDC580-28io7 | 2800             | 581              | 85               | 1372              | 21000            | 0.926           | 0.313          | 125              | 0.05              | 0.0160            | W88      |
| MCD650-24io7 | 2400             | 646              | 85               | 1542              | 24500            | 0.874           | 0.227          | 125              | 0.05              | 0.0160            | W88      |
| MDC650-24io7 | 2400             | 646              | 85               | 1542              | 24500            | 0.874           | 0.227          | 125              | 0.05              | 0.0160            | W88      |
| MCD720-xxio7 | 1400-1800        | 719              | 85               | 1633              | 28000            | 0.823           | 0.241          | 125              | 0.05              | 0.0160            | W88      |
| MDC720-xxio7 | 1400-1800        | 719              | 85               | 1633              | 28000            | 0.823           | 0.241          | 125              | 0.05              | 0.0160            | W88      |

xx in part number indicates voltage grade –  $V_{RRM}/V_{DRM} \div 100$



## Thyristor/Diode Modules – Standard Range

### Dual/Single Thyristor Modules

| Part No.     | V <sub>RRM</sub> | I <sub>TAV</sub> | @ T <sub>C</sub> | I <sub>TRMS</sub> | I <sub>TSM</sub> | V <sub>T0</sub> | r <sub>T</sub> | T <sub>VJM</sub> | R <sub>thJC</sub> | R <sub>thCH</sub> | Fig. No. |
|--------------|------------------|------------------|------------------|-------------------|------------------|-----------------|----------------|------------------|-------------------|-------------------|----------|
|              | V <sub>DRM</sub> |                  |                  |                   | 125°C, 10ms      |                 |                |                  | Per die           | Per die           |          |
|              | V                |                  |                  |                   | A                |                 |                |                  | K/W               | K/W               |          |
| MCC320-xxio2 | 3000-3600        | 327              | 85               | 765               | 5000             | 1.150           | 0.800          | 125              | 0.0650            | 0.2000            | W74      |
| MCC431-xxio2 | 2000-2400        | 429              | 85               | 1020              | 10900            | 1.000           | 0.410          | 125              | 0.0620            | 0.0200            | W74      |
| MCC501-xxio2 | 1200-1800        | 503              | 85               | 1195              | 14500            | 0.850           | 0.300          | 125              | 0.0620            | 0.0200            | W74      |
| MCC552-xxio2 | 1200-1600        | 550              | 85               | 1300              | 15800            | 0.770           | 0.259          | 125              | 0.0620            | 0.0200            | W74      |
| MCO741-22io1 | 2200             | 765              | 85               | 2315              | 29000            | 0.850           | 0.210          | 125              | 0.042             | 0.0100            | W73      |
| MCO801-xxio1 | 1400-1800        | 830              | 85               | 2530              | 30000            | 0.800           | 0.170          | 125              | 0.042             | 0.0100            | W73      |

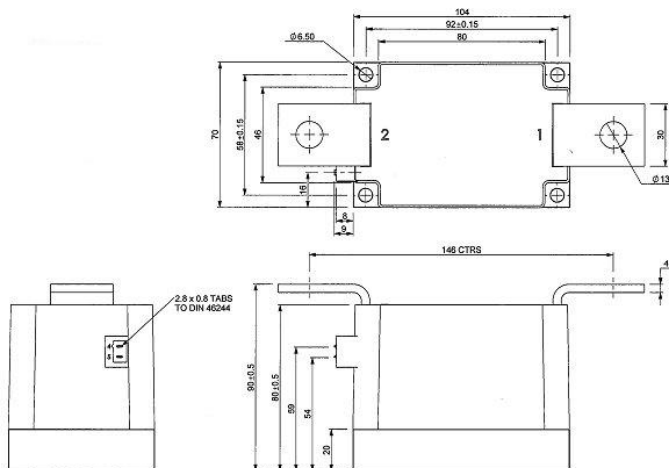
### Dual/Single Diode Modules

| Part No.     | V <sub>RRM</sub> | I <sub>FAV</sub> | @ T <sub>C</sub> | I <sub>FRMS</sub> | I <sub>FSM</sub> | V <sub>T0</sub> | r <sub>T</sub> | T <sub>VJM</sub> | R <sub>thJC</sub> | R <sub>thCH</sub> | Fig. No. |
|--------------|------------------|------------------|------------------|-------------------|------------------|-----------------|----------------|------------------|-------------------|-------------------|----------|
|              | V                |                  |                  |                   | 125°C, 10ms      |                 |                |                  | Per die           | Per die           |          |
|              | V                |                  |                  |                   | A                |                 |                |                  | K/W               | K/W               |          |
| MDD630-xxN2  | 3000-3600        | 632              | 85               | 1273              | 11800            | 0.800           | 0.500          | 150              | 0.0620            | 0.0200            | W74      |
| MDA630-xxN2  | 3000-3600        | 632              | 85               | 1273              | 11800            | 0.800           | 0.500          | 150              | 0.0620            | 0.0200            | W74      |
| MDK630-xxN2  | 3000-3600        | 632              | 85               | 1273              | 11800            | 0.800           | 0.500          | 150              | 0.0620            | 0.0200            | W74      |
| MDD 710-xxN2 | 2200-2600        | 708              | 85               | 1440              | 12750            | 0.800           | 0.350          | 150              | 0.0620            | 0.0200            | W74      |
| MDA 710-xxN2 | 2200-2600        | 708              | 85               | 1440              | 12750            | 0.800           | 0.350          | 150              | 0.0620            | 0.0200            | W74      |
| MDK 710-xxN2 | 2200-2600        | 708              | 85               | 1440              | 12750            | 0.800           | 0.350          | 150              | 0.0620            | 0.0200            | W74      |
| MDD 810-xxN2 | 1200-1800        | 807              | 85               | 1661              | 17250            | 0.780           | 0.230          | 150              | 0.0620            | 0.0200            | W74      |
| MDA 810-xxN2 | 1200-1800        | 807              | 85               | 1661              | 17250            | 0.780           | 0.230          | 150              | 0.0620            | 0.0200            | W74      |
| MDK 810-xxN2 | 1200-1800        | 807              | 85               | 1661              | 17250            | 0.780           | 0.230          | 150              | 0.0620            | 0.0200            | W74      |
| MDO1201-xxN1 | 1400-2200        | 1520             | 85               | 3665              | 36000            | 0.800           | 0.100          | 160              | 0.0420            | 0.0100            | W73      |

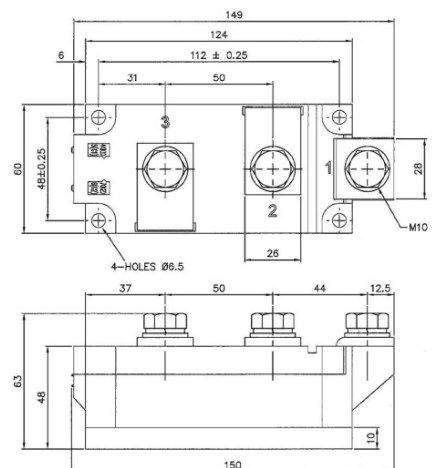
### Thyristor/Diode Modules

| Part No.     | V <sub>RRM</sub><br>V <sub>DRM</sub> | I <sub>TAV</sub> | @ T <sub>C</sub> | I <sub>TRMS</sub> | I <sub>TSM</sub> | V <sub>T0</sub> | r <sub>T</sub> | T <sub>VJM</sub> | R <sub>thJC</sub> | R <sub>thCH</sub> | Fig. No. |
|--------------|--------------------------------------|------------------|------------------|-------------------|------------------|-----------------|----------------|------------------|-------------------|-------------------|----------|
|              | V                                    |                  |                  |                   | 125°C, 10ms      |                 |                |                  | Per die           | Per die           |          |
|              | V                                    |                  |                  |                   | A                |                 |                |                  | K/W               | K/W               |          |
| MCD320-xxio2 | 3000-3600                            | 327              | 85               | 765               | 5000             | 1.150           | 0.800          | 125              | 0.065             | 0.0200            | W74      |
| MDC320-xxio2 | 3000-3600                            | 327              | 85               | 765               | 5000             | 1.150           | 0.800          | 125              | 0.065             | 0.0200            | W74      |
| MCD431-xxio2 | 2000-2400                            | 429              | 85               | 1020              | 10900            | 1.000           | 0.410          | 125              | 0.062             | 0.0200            | W74      |
| MDC431-xxio2 | 2000-2400                            | 429              | 85               | 1020              | 10900            | 1.000           | 0.410          | 125              | 0.062             | 0.0200            | W74      |
| MCD501-xxio2 | 1200-1800                            | 503              | 85               | 1195              | 14500            | 0.850           | 0.300          | 125              | 0.062             | 0.0200            | W74      |
| MDC501-xxio2 | 1200-1800                            | 503              | 85               | 1195              | 14500            | 0.850           | 0.300          | 125              | 0.062             | 0.0200            | W74      |
| MCD552-xxio2 | 1200-1600                            | 550              | 85               | 1300              | 15800            | 0.770           | 0.259          | 125              | 0.062             | 0.0200            | W74      |
| MDC552-xxio2 | 1200-1600                            | 550              | 85               | 1300              | 15800            | 0.770           | 0.259          | 125              | 0.062             | 0.0200            | W74      |

xx in part number indicates voltage grade - V<sub>RRM</sub>/V<sub>DRM</sub> = 100



W73 – 150A123



W74 – 150A123

## Water Cooled Modules

IXYS UK's range of water cooled modules feature a direct cooled base, with no extra interface to the die allowing for more efficient cooling, giving an enhanced average current rating

### Dual Thyristor Modules

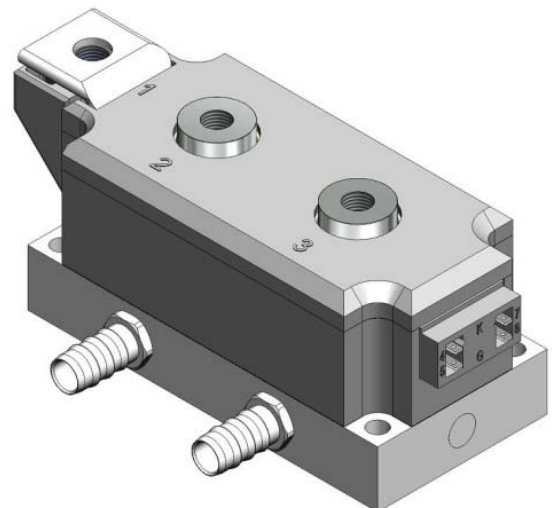
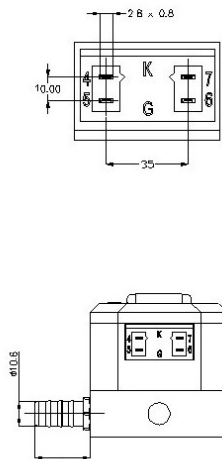
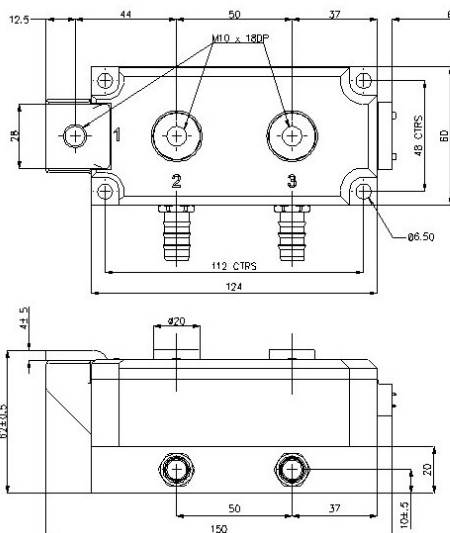
| Part No.      | $V_{RRM}$<br>$V_{DRM}$ | $I_{TAV}$ | @ $T_C$ | $I_{TRMS}$ | $I_{TSM}$   | $V_{TO}$ | $r_T$ | $T_{VJM}$ | $R_{thJW}$ | Fig. No. |
|---------------|------------------------|-----------|---------|------------|-------------|----------|-------|-----------|------------|----------|
|               | V                      | A         | °C      | A          | 125°C, 10ms |          |       |           | Per die    |          |
|               |                        |           |         |            | A           |          |       |           | K/W        |          |
| MCC600-22io1W | 2200                   | 600       | 40      | 1116       | 16500       | 0.880    | 0.460 | 125       | 0.0900     | W64      |
| MCA600-22io1W | 2200                   | 600       | 40      | 1116       | 16500       | 0.880    | 0.460 | 125       | 0.0900     | W64      |
| MCK600-22io1W | 2200                   | 600       | 40      | 1116       | 16500       | 0.880    | 0.460 | 125       | 0.0900     | W64      |
| MCC700-xxio1W | 1400-1800              | 700       | 42      | 1331       | 16500       | 0.850    | 0.270 | 125       | 0.0900     | W64      |
| MCA700-xxio1W | 1400-1800              | 700       | 42      | 1331       | 16500       | 0.850    | 0.270 | 125       | 0.0900     | W64      |
| MCK700-xxio1W | 1400-1800              | 700       | 42      | 1331       | 16500       | 0.850    | 0.270 | 125       | 0.0900     | W64      |

### Dual Diode Modules

| Part No.     | $V_{RRM}$ | $I_{FAV}$ | @ $T_C$ | $I_{FRMS}$ | $I_{FSM}$   | $V_{TO}$ | $r_T$ | $T_{VJM}$ | $R_{thJW}$ | Fig. No. |
|--------------|-----------|-----------|---------|------------|-------------|----------|-------|-----------|------------|----------|
|              | V         | A         | °C      | A          | 125°C, 10ms |          |       |           | Per die    |          |
|              |           |           |         |            | A           |          |       |           | K/W        |          |
| MDD950-xxN1W | 1400-2200 | 950       | 45      | 1773       | 21800       | 0.750    | 0.200 | 150       | 0.0900     | W64      |
| MDA950-xxN1W | 1400-2200 | 950       | 45      | 1773       | 21800       | 0.750    | 0.200 | 150       | 0.0900     | W64      |
| MDK950-xxN1W | 1400-2200 | 950       | 45      | 1773       | 21800       | 0.750    | 0.200 | 150       | 0.0900     | W64      |

### Thyristor/Diode Modules

| Part No.      | $V_{RRM}$<br>$V_{DRM}$ | $I_{TAV}$ | @ $T_C$ | $I_{TRMS}$ | $I_{TSM}$   | $V_{TO}$ | $r_T$ | $T_{VJM}$ | $R_{thJW}$ | Fig. No. |
|---------------|------------------------|-----------|---------|------------|-------------|----------|-------|-----------|------------|----------|
|               | V                      | A         | °C      | A          | 125°C, 10ms |          |       |           | Per die    |          |
|               |                        |           |         |            | A           |          |       |           | K/W        |          |
| MCD600-22io1W | 2200                   | 600       | 40      | 1116       | 16500       | 0.880    | 0.460 | 125       | 0.0900     | W64      |
| MDC600-22io1W | 2200                   | 600       | 40      | 1116       | 16500       | 0.880    | 0.460 | 125       | 0.0900     | W64      |
| MCD700-xxio1W | 1400-1800              | 700       | 42      | 1331       | 16500       | 0.850    | 0.270 | 125       | 0.0900     | W64      |
| MDC700-xxio1W | 1400-1800              | 700       | 42      | 1331       | 16500       | 0.850    | 0.270 | 125       | 0.0900     | W64      |

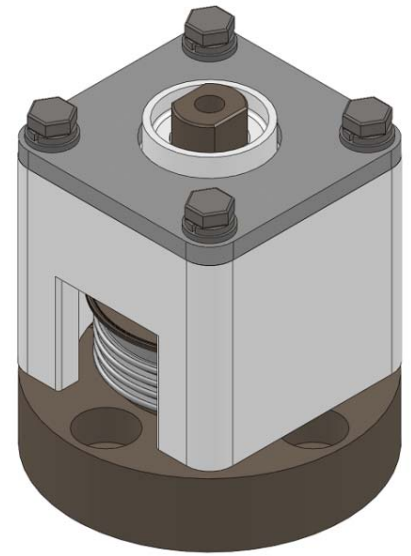


## Easy Mount, Rectifier Diode Module Assemblies

Introducing the new range of **easy mount** standard rectifier diode module assemblies from IXYS UK

These new module assemblies, which can be supplied either with the diodes ready mounted or as kits allow for easy mounting of rectifier diodes to cooling fins using four bolts.

The diodes are single side mounted directly to a copper base plate pre-drilled with the four bolt holes. Diodes can be either anode or cathode side down, with three versions available suitable for 34mm to 50mm electrode devices. An extensive range of 'standard' parts is available, see overleaf, with the mounting hole positions compatible with the now obsolete range of flat based rectifiers previously offered by a number of manufacturers.



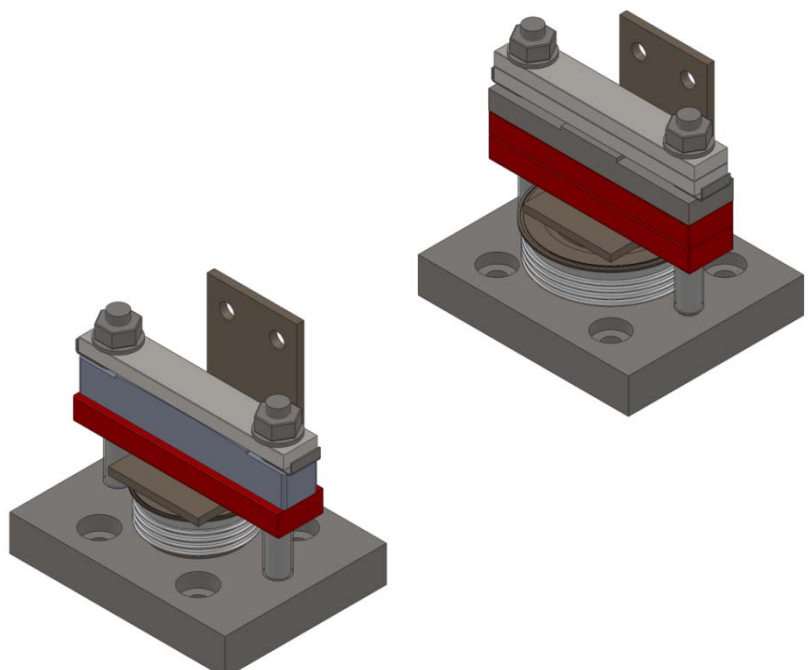
## Features and Benefits

- Design compatible with obsolete flat based rectifiers
- Utilises high reliability, hermetically sealed IXYS UK capsule diodes
- Voltage ratings up to 4.5kV
- Current ratings up to 2035A
- Direct single side mounting to cooling plates



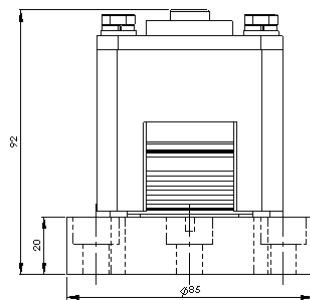
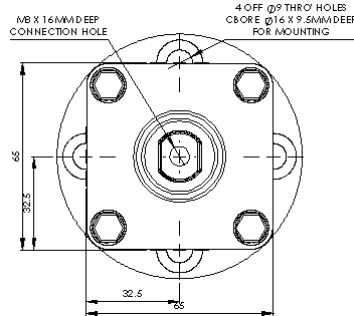
## Applications

- Rail Applications
- Traction Main Drives
- DC Locomotives
- Trackside Substations
- Front-end Rectification
- Power Conversion
- Marine and Off-Shore Applications
- Chemical Power Supplies

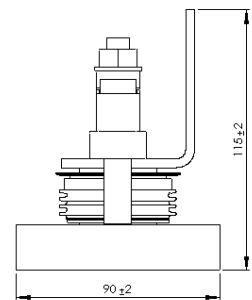
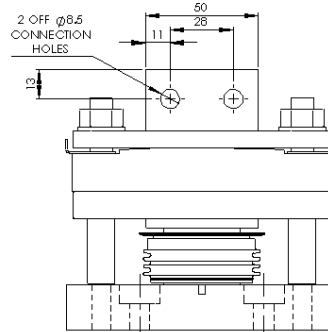
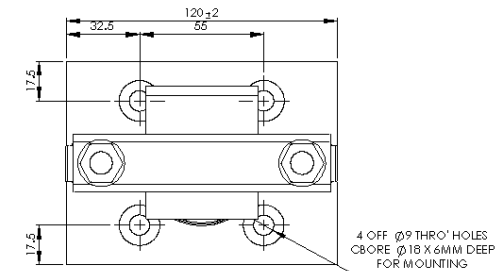


| Part No.        | Old Square Base Part No. | Base Polarity | $V_{RRM}$ | $I_{TAV}$<br>$T_C - 100^\circ C$ | $I_{TSM}$ | $i^2t$               | $V_{TO}$ | $r_T$ | $R_{th}$ | $T_{JM}$ | Outline<br>(see overleaf) |
|-----------------|--------------------------|---------------|-----------|----------------------------------|-----------|----------------------|----------|-------|----------|----------|---------------------------|
|                 |                          |               | V         | A                                | kA        | A <sup>2</sup> s     | V        | mΩ    | K/W      | °C       |                           |
| W1185LC450KBR † | SW45KBR515               | Anode         | 4500      | 435                              | 10.2      | 520×10 <sup>3</sup>  | 1.00     | 0.575 | 0.085    | 160      | WC64                      |
| W1185LC450KBN † | SW45KBN515               | Cathode       | 4500      | 380                              | 10.2      | 520×10 <sup>3</sup>  | 1.00     | 0.575 | 0.101    | 160      | WC64                      |
| W1411LC360KBR † | SW36KBR595               | Anode         | 3600      | 505                              | 12.2      | 744×10 <sup>3</sup>  | 0.90     | 0.388 | 0.085    | 160      | WC64                      |
| W1411LC360KBN † | SW36KBN595               | Cathode       | 3600      | 445                              | 12.2      | 744×10 <sup>3</sup>  | 0.90     | 0.388 | 0.101    | 160      | WC64                      |
| W1524LC300KBR † | SW30KBR636               | Anode         | 3000      | 540                              | 13.4      | 898×10 <sup>3</sup>  | 0.87     | 0.323 | 0.085    | 160      | WC64                      |
| W1524LC300KBN † | SW30KBN636               | Cathode       | 3000      | 470                              | 13.4      | 898×10 <sup>3</sup>  | 0.87     | 0.323 | 0.101    | 160      | WC64                      |
| W1748LC220KBR † | SW22KBR805               | Anode         | 2200      | 660                              | 13.5      | 911×10 <sup>3</sup>  | 0.87     | 0.28  | 0.085    | 175      | WC64                      |
| W1748LC220KBN † | SW22KBN805               | Cathode       | 2200      | 582                              | 13.5      | 911×10 <sup>3</sup>  | 0.87     | 0.28  | 0.101    | 175      | WC64                      |
| W2058LC120KBR † | SW12KBR935               | Anode         | 1200      | 760                              | 16.1      | 1.30×10 <sup>6</sup> | 0.79     | 0.192 | 0.085    | 175      | WC64                      |
| W2058LC120KBN † | SW12KBN935               | Cathode       | 1200      | 665                              | 16.1      | 1.30×10 <sup>6</sup> | 0.79     | 0.192 | 0.101    | 175      | WC64                      |
| W1185LC450KCR   | SW38KBR515               | Anode         | 4500      | 455                              | 10.2      | 520×10 <sup>3</sup>  | 1.00     | 0.575 | 0.08     | 160      | WC65                      |
| W1185LC450KCN   | SW45KBN515               | Cathode       | 4500      | 395                              | 10.2      | 520×10 <sup>3</sup>  | 1.00     | 0.575 | 0.097    | 160      | WC65                      |
| W1411LC360KCR   | SW36KBR595               | Anode         | 3600      | 530                              | 13.2      | 756×10 <sup>3</sup>  | 0.90     | 0.388 | 0.08     | 160      | WC65                      |
| W1411LC360KCN   | SW36KBN595               | Cathode       | 3600      | 460                              | 12.3      | 759×10 <sup>3</sup>  | 0.90     | 0.388 | 0.097    | 160      | WC65                      |
| W1524LC300KCR   | SW30KBR635               | Anode         | 3000      | 565                              | 13.4      | 898×10 <sup>3</sup>  | 0.87     | 0.323 | 0.08     | 160      | WC65                      |
| W1524LC300KCN   | SW30KBN636               | Cathode       | 3000      | 490                              | 13.4      | 898×10 <sup>3</sup>  | 0.87     | 0.323 | 0.097    | 160      | WC65                      |
| W1748LC220KCR   | SW22KBR805               | Anode         | 2200      | 690                              | 13.5      | 911×10 <sup>3</sup>  | 0.87     | 0.28  | 0.08     | 175      | WC65                      |
| W1748LC220KCN   | SW22KBN805               | Cathode       | 2200      | 600                              | 13.5      | 911×10 <sup>3</sup>  | 0.87     | 0.28  | 0.097    | 175      | WC65                      |
| W2058LC120KCR   | SW12KBR935               | Anode         | 1200      | 800                              | 16.1      | 1.30×10 <sup>6</sup> | 0.79     | 0.192 | 0.08     | 175      | WC65                      |
| W2058LC120KCN   | SW12KBN935               | Cathode       | 1200      | 690                              | 16.1      | 1.30×10 <sup>6</sup> | 0.79     | 0.192 | 0.097    | 175      | WC65                      |
| W3082MC450KDR   | SB45KDR680               | Anode         | 4500      | 1115                             | 26.6      | 3.54×10 <sup>6</sup> | 0.923    | 0.192 | 0.037    | 160      | WC66                      |
| W3082MC450KDN   | SB45KDN680               | Cathode       | 4500      | 1030                             | 26.6      | 3.54×10 <sup>6</sup> | 0.923    | 0.192 | 0.041    | 160      | WC66                      |
| W3708MC350KDR   | SB35KDR820               | Anode         | 3500      | 1240                             | 33.7      | 5.68×10 <sup>6</sup> | 0.958    | 0.112 | 0.037    | 160      | WC66                      |
| W3708MC350KDN   | SB35KDN820               | Cathode       | 3500      | 1145                             | 33.7      | 5.68×10 <sup>6</sup> | 0.958    | 0.112 | 0.041    | 160      | WC66                      |
| W3842MC280KDR   | SB25KDR950               | Anode         | 2800      | 1325                             | 33.5      | 5.61×10 <sup>6</sup> | 0.831    | 0.118 | 0.037    | 160      | WC66                      |
| W3842MC280KDN   | SB25KDN950               | Cathode       | 2800      | 1225                             | 33.5      | 5.61×10 <sup>6</sup> | 0.831    | 0.118 | 0.041    | 160      | WC66                      |
| W5636MC150KDR   | SB15KDR14C               | Anode         | 1500      | 2035                             | 43.9      | 9.64×10 <sup>6</sup> | 0.698    | 0.059 | 0.037    | 175      | WC66                      |
| W5636MC150KDN   | SB15KDN14C               | Cathode       | 1500      | 1875                             | 43.9      | 9.64×10 <sup>6</sup> | 0.698    | 0.059 | 0.041    | 175      | WC66                      |

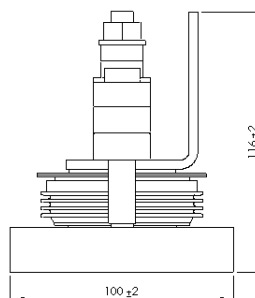
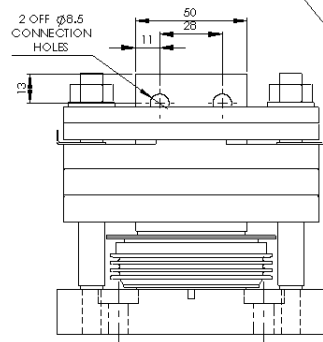
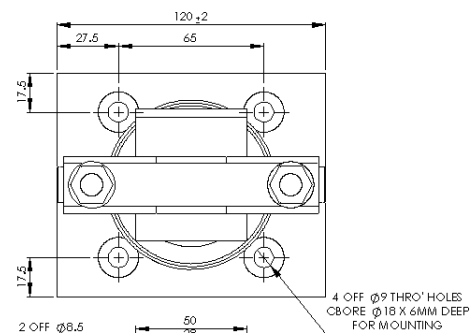
† - Assembly supplied as kit of parts, all other designs available as either kit of parts or fully assembled



WC64



WC65



WC66



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