

Input voltage range up to 75 V DC  
1 or 3 outputs up to 15 V DC  
1500 V DC I/O electric strength test voltage



- 100°C base plate operation
- 5 V, 3.3 V, 2.5 V and 2.1 V outputs
- Open frame 2" x 2" packaging

## Selection chart

| Output 1            |                     | Output 2            |                     | Output 3            |                     | Input   | Rated power         | Efficiency          | Type          |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------|---------------------|---------------------|---------------|
| $U_{o \text{ nom}}$ | $I_{o \text{ nom}}$ | $U_{o \text{ nom}}$ | $I_{o \text{ nom}}$ | $U_{o \text{ nom}}$ | $I_{o \text{ nom}}$ | $U_i$   | $P_{o \text{ tot}}$ | $\eta_{\text{typ}}$ |               |
| [V DC]              | [A]                 | [V DC]              | [A]                 | [V DC]              | [A]                 | [V DC]  | [W]                 | [%]                 |               |
| 2.1                 | 10                  | -                   | -                   | -                   | -                   | 36...72 | 21                  | 81                  | OES 021ZC-A   |
| 2.5                 | 10                  | -                   | -                   | -                   | -                   | 36...72 | 25                  | 82                  | OES 025ZD-A   |
| 3.3                 | 10                  | -                   | -                   | -                   | -                   | 36...72 | 33                  | 85                  | OES 033ZE-A   |
| 5                   | 8                   | -                   | -                   | -                   | -                   | 36...72 | 40                  | 89                  | OES 040ZG-A   |
| 3.3                 | 3.5                 | +12                 | 0.35                | -12                 | 0.35                | 18...36 | 20                  | 85                  | OET 020YEH-A  |
| 3.3                 | 3.5                 | +12                 | 0.35                | -12                 | 0.35                | 34...75 | 20                  | 85                  | OET 020ZEHH-A |
| 3.3                 | 3.5                 | +15                 | 0.28                | -15                 | 0.28                | 18...36 | 20                  | 85                  | OET 020YEJJ-A |
| 3.3                 | 3.5                 | +15                 | 0.28                | -15                 | 0.28                | 34...75 | 20                  | 85                  | OET 020ZEJJ-A |
| 5                   | 3.5                 | +12                 | 0.31                | -12                 | 0.31                | 18...36 | 25                  | 86                  | OET 025YGHH-A |
| 5                   | 3.5                 | +12                 | 0.31                | -12                 | 0.31                | 34...75 | 25                  | 85                  | OET 025ZGHH-A |
| 5                   | 3.5                 | +15                 | 0.25                | -15                 | 0.25                | 18...36 | 25                  | 86                  | OET 025YGJJ-A |
| 5                   | 3.5                 | +15                 | 0.25                | -15                 | 0.25                | 34...75 | 25                  | 85                  | OET 025ZGJJ-A |

## Input

|                            |                                                   |              |
|----------------------------|---------------------------------------------------|--------------|
| Input voltage              | continuous range, 24 V, triple output models only | 18...36 V DC |
|                            | continuous range, 48 V, single output models      | 36...72 V DC |
|                            | continuous range, 48 V, triple output models      | 34...75 V DC |
| Reverse voltage protection | shunt diode                                       |              |

## Output

|                                 |                                                                                                              |                                    |
|---------------------------------|--------------------------------------------------------------------------------------------------------------|------------------------------------|
| Output voltage setting accuracy | $U_{i \text{ nom}}, I_{o \text{ nom}}$                                                                       | $\pm 1\% U_{o \text{ nom}}$        |
| Minimum load                    | recommended on all outputs                                                                                   | $10\% I_{o \text{ nom}}$           |
| Line regulation                 | $U_{i \text{ min}} \dots U_{i \text{ max}}, I_{o \text{ nom}}, 5 \text{ V}, 3.3 \text{ V}$ and triple output | typ. $\pm 0.2\% U_{o \text{ nom}}$ |
|                                 | $U_{i \text{ min}} \dots U_{i \text{ max}}, I_{o \text{ nom}}, 2.5 \text{ V}$ and $2.1 \text{ V}$            | typ. $\pm 0.4\% U_{o \text{ nom}}$ |
| Load regulation                 | $U_{i \text{ nom}}, 1 \dots 100\% I_{o \text{ nom}}$                                                         | typ. $0.5\% U_{o \text{ nom}}$     |
| Output voltage switching noise  | $U_{i \text{ nom}}, I_{o \text{ nom}}, \text{peak-peak, total}$                                              | max. $6\% U_{o \text{ nom}}$       |
| Voltage trim range              |                                                                                                              | $\pm 10\% U_{o \text{ nom}}$       |

## Control and protection

|                        |                                       |                                                              |
|------------------------|---------------------------------------|--------------------------------------------------------------|
| Overload protection    | shut down, hiccup, self recovering    | 110...140% $I_{O\text{ nom}}$                                |
|                        | triple output models                  | 110...130% $I_{O\text{ nom}}$ , max. 200% $I_{O\text{ nom}}$ |
| Overvoltage protection | self recovering, single output models | 120...140% $U_{O\text{ nom}}$                                |
|                        | self recovering, triple output models | 115...140% $U_{O\text{ nom}}$                                |
| Thermal shutdown       |                                       | 105...115°C                                                  |
| Remote shutdown        | positive logic, negative reference    |                                                              |

## Safety and EMC

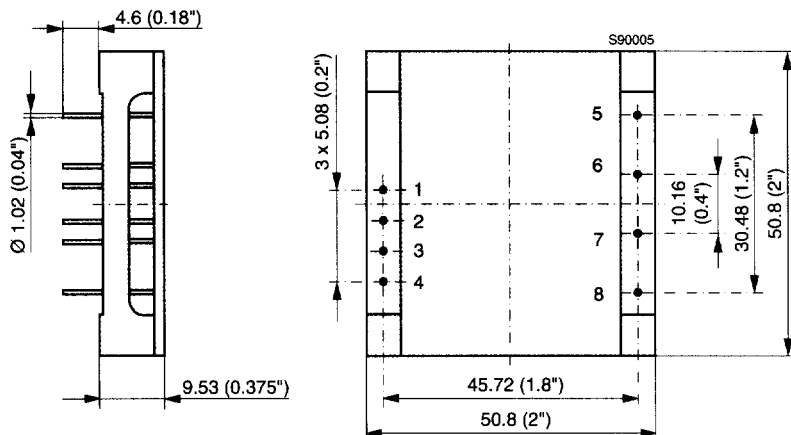
|                                |           |           |
|--------------------------------|-----------|-----------|
| Electric strength test voltage | I/O       | 1500 V DC |
| Electromagnetic interference   | conducted | tbd       |

## Environmental

|                                  |                                      |             |
|----------------------------------|--------------------------------------|-------------|
| Operating case temperature $T_C$ | $U_{i\text{ nom}}, I_{o\text{ nom}}$ | -40...100°C |
| Storage temperature              | non operational                      | -40...125°C |
| Relative humidity                | non condensing                       | 95%         |
| MTBF                             | Belcore TR-NWT-000332                | 1'500'000 h |

## Mechanical data

Tolerances  $\pm 0.3$  mm (0.012") unless otherwise indicated.



## Pin allocation OES

| Pin | Single output units |
|-----|---------------------|
| 1   | Vi+                 |
| 2   | Vi-                 |
| 3   | n.c.                |
| 4   | Enable              |
| 5   | Vo+                 |
| 6   | Vo-                 |
| 7   | Trim                |

## Pin allocation OET

| Pin | Triple output units |
|-----|---------------------|
| 1   | Vi+                 |
| 2   | Vi-                 |
| 3   | Case                |
| 4   | Enable              |
| 5   | Vo+ (aux)           |
| 6   | Vo+ (main)          |
| 7   | Common              |
| 8   | Vo- (aux)           |