

Pi2R Datasheet



Technical specifications

Electrical Specifications

| | Micro | iX |
|--------------|----------|----------|
| Element Size | 2 – 3 kW | 2 – 4 kW |

AC Input

| | | |
|--------------------------|---------------|----------|
| Voltage | 220 – 240 Vac | |
| Frequency | 50 Hz ± 10% | |
| Internal current limiter | N/A | 20A Fuse |

DC Input

| | | |
|--------------------------|---------------|---------------|
| Voltage | 90 – 200 Vdc | 90 – 325 Vdc |
| MPP | 120 – 200 Vdc | 120 – 325 Vdc |
| Internal current limiter | 7 Amp | 14 Amp |

General Data

| | | |
|---------------------------------|--------------------|------------------|
| Dimensions (W/L/H) | 180 * 100 * 45mm | 180 * 125 * 45mm |
| Weight | 560g | 750g |
| Operating Temperature | -10°C - +50°C | |
| Noise emission, typical | 20dB(A) | |
| Cooling method | Passive/Convection | |
| Self-consumption | 0.5 Watt | 1.0 Watt |
| Degree of protection (IEC60529) | IP30 | |
| MTBF | 50,000h | |
| Optional Display | No | Yes |

Certification

| | |
|----------|--------------|
| EMC | IEC 61326-1 |
| Safety | IEC 60730-1 |
| NRCS | RCC: 2405055 |
| Warranty | 2 Years |

Description:

The Micro only has one mode of operation as it cannot communicate with a display. The iX has two different operating modes, one with a display and one without.

Connection without a Display

In this mode temperature can only be set with the existing AC thermostat. No extra settings possible.

In this mode priority is **always** given to grid power (AC). This enables the unit to be manually forced to use grid when DC power is available but not sufficient. Otherwise when DC is only at 10% (for example) then the water cannot be heated up quickly if the user so required.

Thus to automate functionality, AC needs to be switched through a standard geyser timer. This timer will enable AC at set times to ensure acceptable water. The timer also ensures that DC is used during sunlight hours as it removes AC during daytime.

Contrary to expectation AC is not always used during these times. AC will be available but not used when the geyser is warm enough

Connection with a Display

In this mode all programming is done via the Display and the existing thermostat is turned up to maximum temperature to avoid intervening with user settings while still providing a safety backup.

Override

The geyser can be manually overridden in order to heat up **once-off**. Overrides will not repeat automatically.

Timers

Two independent timers can be set when AC may be used.

Contrary to expectation AC is not always used during these times.

AC will not be used when:

- Water is warm enough
- Loadshedding

Temperatures

Two independent temperatures can be set. One for AC and one for DC/PV.

When the Temperature reaches the AC set-point then the unit will switch to PV power if available (even during Timer operation).

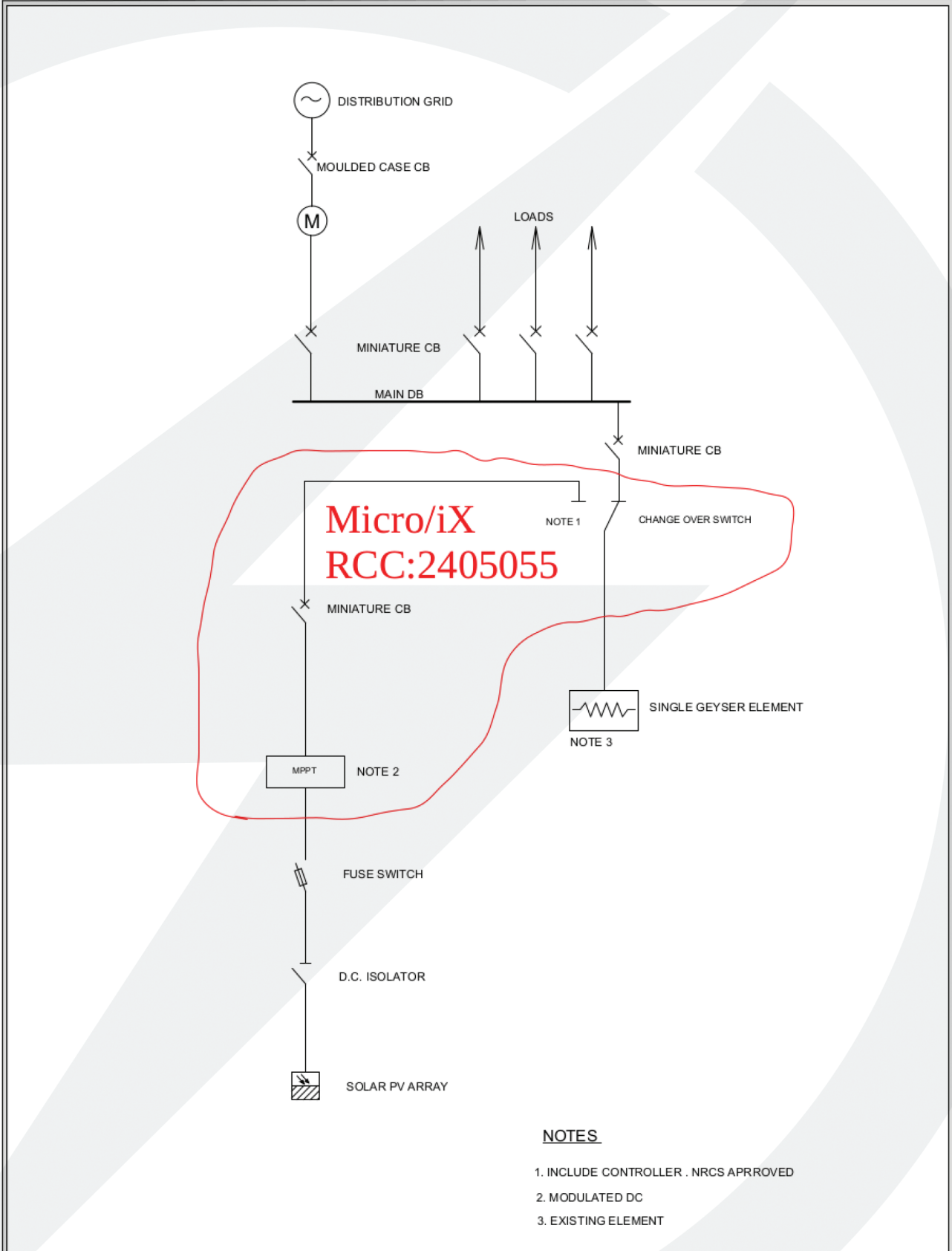
It is therefore important to set the AC temperature lower than the DC temperature, otherwise power saving will be hindered.

City of Capetown

Both the Micro and iX can be used under Capetown regulations, both are NRCS approved as required.

Everything within the red circle in the diagram below is contained inside the Pi2R units.

City of Capetown diagram:



| NO | AMENDMENTS | DATE |
|----|------------------|-----------------|
| 1 | DRAWING REVIEWED | PT M 27/09/2023 |
| 2 | XXXXXXXXXXXX | X XX 00/0/00 |
| 3 | XXXXXXXXXXXX | X XX 00/0/00 |
| 4 | XXXXXXXXXXXX | X XX 00/0/00 |
| 5 | XXXXXXXXXXXX | X XX 00/0/00 |
| 6 | XXXXXXXXXXXX | X XX 00/0/00 |



**ENERGY GRID
DIAGRAMS**

| | |
|-----------|------------|
| COMPILED: | PT MOTEBU |
| CHECKED: | R. DE KOCK |
| APPROVED: | A VAN ZYL |

| | | |
|---|-----------------------|--------------|
| SOLAR PV GEYSER: MODULATED DC OR GRID AC INTERLOCKED | | |
| SHEET SIZE | DRAWING No. SK5276 | SHEET 5.2 |