Application Note

Connecting a Demand Response Enabling Device

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1. Introduction

To conform to the Australian standard AS/NZS 4777:2:2015 the inverter shall have means to activate demand response modes by means of an external device (Demand Response Enabling Device, DRED).

KATEK Memmingen GmbH has implemented a simple solution to directly connect coolcept fleX and coolcept³ fleX inverters to the DRED without the need of an additional device.

This document provides a guide on how to connect coolcept fleX and coolcept³ fleX inverters to a DRED and how to configure the system for DRM0.

Please be aware:

The installation and commissioning instructions in the manual of Steca inverters are not being replaced by the information in this document.

Changing settings without explicit specification by the grid operator may affect conformity with relevant standards and regulations.

For changes in the password protected settings menu the qualified specialist is asked to contact the technical support of Steca/KATEK (customerservice@stecasolar.com) or one of the local service partners.

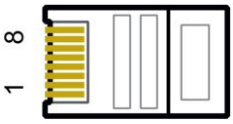
	Legally required parameters can be changed in the service menus. Any change may have a negative effect on the performance of the inverter and possibly even break a law. ➢ Only specialists that can ensure that changes do not violate any applicable regulations and standards are allowed to perform any changes on the parameters of the service menus.

	coolcept fleX and coolcept³ fleX inverters only support DRM0 mode. The optional DRM Modes 1 to 8 are not supported.

2. Electrical Connection of the Demand Response Enabling Device

The RJ45 socket labelled COM1 is used to connect the inverter to an external DRED.

Assignment of contacts for DRM0 mode



Assignment of contacts corresponds to the conductor number of the RJ45 plug.

For the DRM0 functionality pins 6 and 7 of COM1 are connected directly at the inverter. This combined pin is then routed to the external DRED together with pin 8 of COM1.

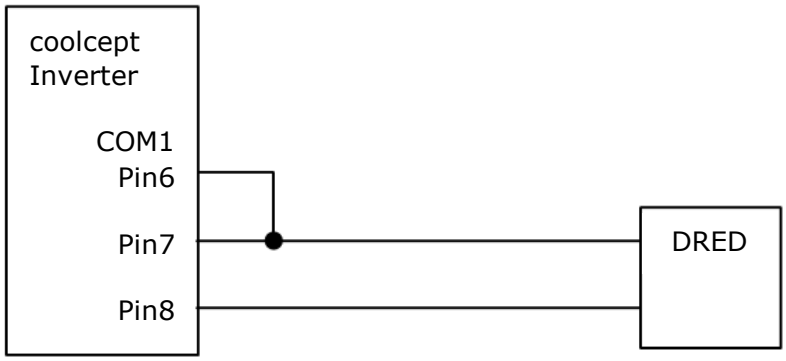


Figure 1: wiring diagram for the DRM functionality

Pin 7 and Pin 8 of COM1 cannot be used to power the DRED!

3. Activating the DRM Mode functionality on the inverter

DRM Mode functionality has to be enabled in the settings menu of the inverter under "Settings"->"Service"->"All Parameters" by a qualified specialist. The settings are protected by password.

To activate DRM0 functionality ID 48 "RapidShut" has to be set to "2".

After activating the functionality DRM0 is asserted when either

- The external DRED connects the two cables, e.g. using a relay

  Or

- The impedance between the pins is above 20kΩ, e.g. in case of a broken cable.

If the second condition has caused the inverter to assert DRM0, "DRM0 open circuit" will be displayed on the display to alert the system operator of the faulty connection.

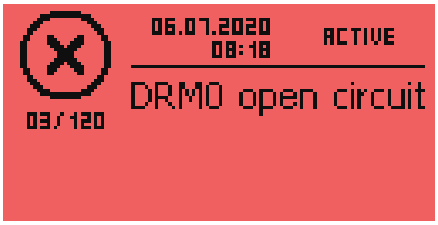


Figure 2: Error message on the display of the inverter in case of a broken cable