

INDUSTRIAL AUTOMATION

Giving energy more value ■



Option for electromagnets applications

DCREG4 thyristor converter can be used to power very inductive loads, such as electromagnets. Applications problems due to this type of load have been solved by a control algorithm specially developed for DCREG4 converters.

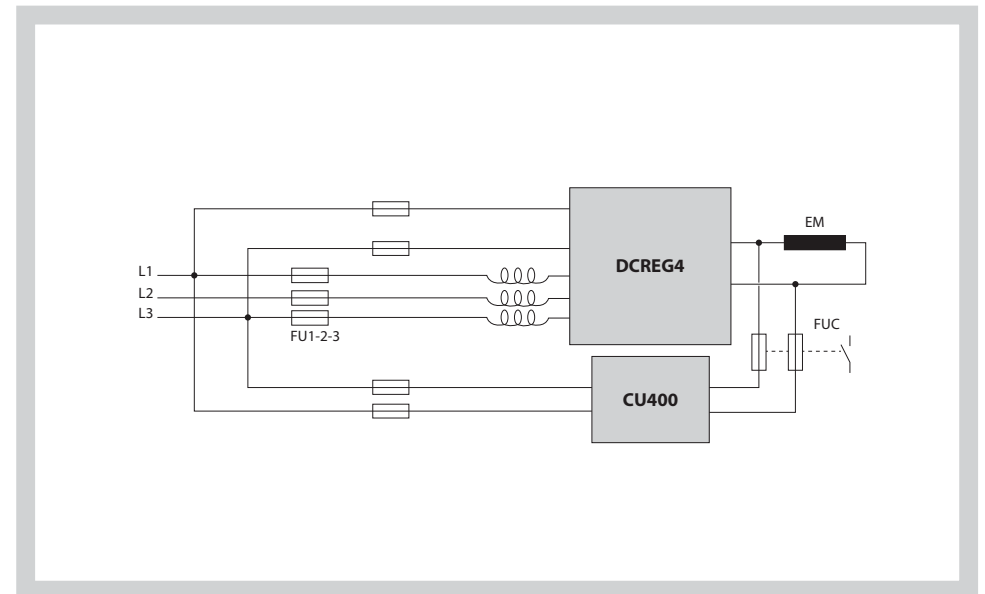
CU400 clamping unit for DCREG

A special algorithm featured by the DCREG4 enables solving the application problems issued by an ohmic resistor connected in series to a very high inductance.

Clamping unit CU400 protects the DCREG4 when it is subject to dangerous overvoltage conditions generated when the current conduction mesh of the magnet unexpectedly opens. Power is cut by CU400, which avoids dangerous overvoltage conditions.

The energy stored into the magnet is "absorbed" and stored in an RC-type clamping circuit, where overvoltage is limited by a capacitor and is dissipated by a resistor.

To ensure proper clamping, unit CU400 must be connected directly to the converter DC side. To suppress the first current peak generated by the capacitor, this is precharged when connecting the main voltage of the mains (typically 400 VAC) to the relevant terminals. If a power supply conducted mesh is physically open or the connecting cables between the magnet and the converter open, the voltage arc generated by the current cut off is limited by the clamping circuit capable of suppressing overvoltage. The configuration above is typically required for electromagnets installed on bridge cranes.



Max power supply 440 Vac

Converter size	Clamping unit	External capacitor (µF)	W(mm)	H (mm)	D(mm)	Weight (kg)
DCREG4.10	CU400	-	136	246	160	3.9
DCREG4.20	CU400	-	136	246	160	3.9
DCREG4.40	CU400	-	136	246	160	3.9
DCREG4.100	CU400	-	136	246	160	3.9
DCREG4.150	CU400	2 x 3300	136	246	160	3.9
DCREG4.180	CU400	2 x 3300	136	246	160	3.9
DCREG4.250	CU400	2 x 6800	136	246	160	3.9
DCREG4.350	2 x CU400	2 x 6800	136	246	160	3.9
DCREG4.410	2 x CU400	2 x 6800	136	246	160	3.9