



In most of the applications of power electronics, the input power is in the form of a sinusoidal wave coming from the mains network which is then converted to direct current.

In many cases the conversion is of the non-controlled type, with the use of diode rectifiers.

However, in some applications, such as, for example, some types of drives of ac and dc motors, it is necessary that the dc output voltage be controllable.

In this case, thyristor converters for the mains frequency phase control are used. They are utilized in particular in high voltage dc power transmission or in all those applications where it is necessary to control the power flow in both directions between the dc side and the ac side.

LIST OF EXPERIMENTS

DCA 201.1 DIODES AND UNCONTROLLED RECTIFIERS

Uncontrolled diodes

- Selenium diode
- Silicon diode

Uncontrolled static converter circuits

- Single pulse rectifier E1UK, ohmic load
- Single pulse rectifier E1UK, ohmic-inductive load
- Two-pulse rectifier M2UK, ohmic load
- Two-pulse rectifier M2UK, ohmic-inductive load
- Two-pulse bridge rectifier B2UK, ohmic load
- Two-pulse bridge rectifier B2UK, ohmic-inductive load
- Three-pulse rectifier M3UK, ohmic load
- Three-pulse rectifier M3UK, ohmic-inductive load
- Six-pulse rectifier M6UK, ohmic load
- Six-pulse rectifier M6UK, ohmic-inductive load
- Six-pulse bridge rectifier B6UK, ohmic load
- Six-pulse bridge rectifier B6UK, ohmic-inductive load

DCA 201.2 SCR AND CONTROLLED RECTIFIERS

Thyristors

- SCR

Single pulse converters

- Single pulse converter E1CK, ohmic load
- Single pulse converter E1CK, inductive load
- Single pulse converter E1CK, ohmic-inductive load
- Single pulse converter E1CK, ohmic-inductive load and free-wheeling diode
- Single pulse converter E1CK, ohmic-inductive load and back e.m.f.
- Single pulse rectifier E1UK, ohmic-capacitive load
- Single pulse converter E1CK, ohmic-capacitive load

Two-pulse midpoint converters

- Two-pulse midpoint converter M2CK, ohmic load
- Two-pulse midpoint converter M2CK, ohmic-inductive load

Multi-phase converters

- Three-pulse midpoint converter M3CK, ohmic load
- Three-pulse midpoint converter M3CK, ohmic-inductive load
- Six-pulse midpoint converter M6CK, ohmic load
- Six-pulse midpoint converter M6CK, ohmic-inductive load



POWER ELECTRONICS



Drainage-coil converters

- Double three-pulse star converter M3CK2, ohmic load

Bridge converters

- Half-controlled bridge B2HK, ohmic load
- Half-controlled bridge B2HK, ohmic-inductive load
- Half-controlled bridge B2HZ, ohmic load
- Half-controlled bridge B2HZ, ohmic-inductive load
- Fully-controlled bridge B2C, ohmic load
- Fully-controlled bridge B2C, ohmic-inductive load
- Fully-controlled bridge B2C, ohmic load and back e.m.f.
- Fully-controlled bridge B2C, dc motor load
- Fully-controlled bridge B2C, ohmic load and supplementary dc voltage
- Fully-controlled bridge B2C, dc generator load
- Three-phase half-controlled bridge B6HK, ohmic load
- Three-phase fully-controlled bridge B6C, ohmic load
- Three-phase fully-controlled bridge B6C, ohmic-inductive load

Code	Description	DCA 201.1	DCA 201.2	Total quantities
DL 2601	SELENIUM RECTIFIER	1		1
DL 2602	SILICON DIODE	1		1
DL 2603	GROUP OF DIODES	1	1	1
DL 2604	SCR		1	1
DL 2605	GROUP OF SCR		1	1
DL 2613	DC POWER SUPPLY		1	1
DL 2614	VOLTAGE REFERENCE GENERATOR		1	1
DL 2615	TRIGGER POINT LIMITER		1	1
DL 2616	TWO PULSE CONTROL UNIT		1	1
DL 2617	SIX PULSE CONTROL UNIT		1	1
DL 2626	MAINS TRANSFORMER	1	1	1
DL 2628	SUPER-FAST FUSES	2	2	2
DL 2635	LOAD	1	1	1
DL 2636	SOCKETS WITH LAMPS		1	1
DL 2637	STABILIZED POWER SUPPLY		1	1
DL 2642	ISOLATION AMPLIFIER	op.	op.	op.
DL 2643	SUPPORT WITH 3 SHUNTS 1 OHM	1	1	1
DL 2644	SUPPORT WITH 3 SHUNTS 0,1 OHM		1	1
DL 12B12	BATTERY STACK		1	1
DL 2025DT	TACHOMETER		1	1
DL 2109T33	TRUE RMS METER	2	2	2
DL 2109T3PV	MOVING IRON VOLTMETER	1	1	1
DL 2109T2A5	MOVING IRON AMMETER	1	1	1
DL 10200A1	SHUNT EXCITATION DC MOTOR		1	1
DL 10250A1	SHUNT EXCITATION DC GENERATOR		1	1
DL 10400	BASE		1	1
	STORAGE OSCILLOSCOPE	1	1	1
DL 2100-3M	FRAME	2	2	2
DL 2100TA	STORAGE CABINET	1	1	1
DL 1001-1	WORKING BENCH	1	1	1
DL 1155POW	CONNECTING LEADS	1	1	1
	For the Countries where the 3-phase mains supply is different from 380V:			
DL 2600ATT	THREE PHASE TRANSFORMER	1	1	1