

**Multiservice Documentazione Tecnica – Technical documentation MDT 2017.1**

Oggetto : Raddrizzatore ad IGBT serie COMPACT3M in parallelo  
 Object : Parallel rectifier IGBT type COMPACT3M

L.Dieghi

**Introduzione - Introduction**

Riportiamo in questo articolo i rilievi strumentali eseguiti su una configurazione che vede impiegati nr.2 convertitori AC/DC della serie COMPACT3M-CH in configurazione di parallelo di ridondanza ,su unica batterie di accumulatori , portati anche al funzionamento di potenza .

Is shown in this article the instrumental measurements performed on a configuration that sees used No.2 converters AC / DC in the configuration of redundant parallel COMPACT3M-CH type, on single batteries, also brought to power operation.

**Dati generali del sistema  
 General Data**

Ving: 400Vac 3Ph  
 Vout: 54 Vdc  
 Iout single module: 60Amp  
 Irech.total : 120Amp  
 Irech.batt : 35Amp

Modulo di potenza  
 Ac/Dc ad IGBT  
 removibile  
  
 Removable IGBT  
 Ac/Dc power  
 module

Servizi ausiliari  
 Aux service

Organi di manovra  
 Input MCB

Morsettiere  
 Clamps

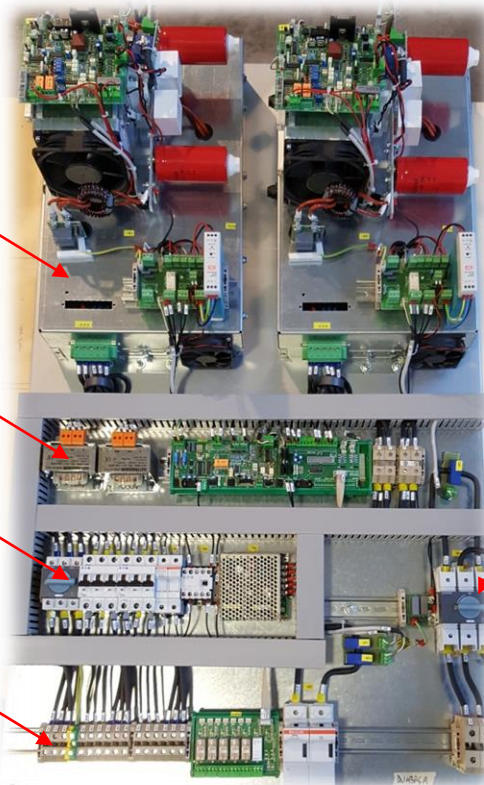
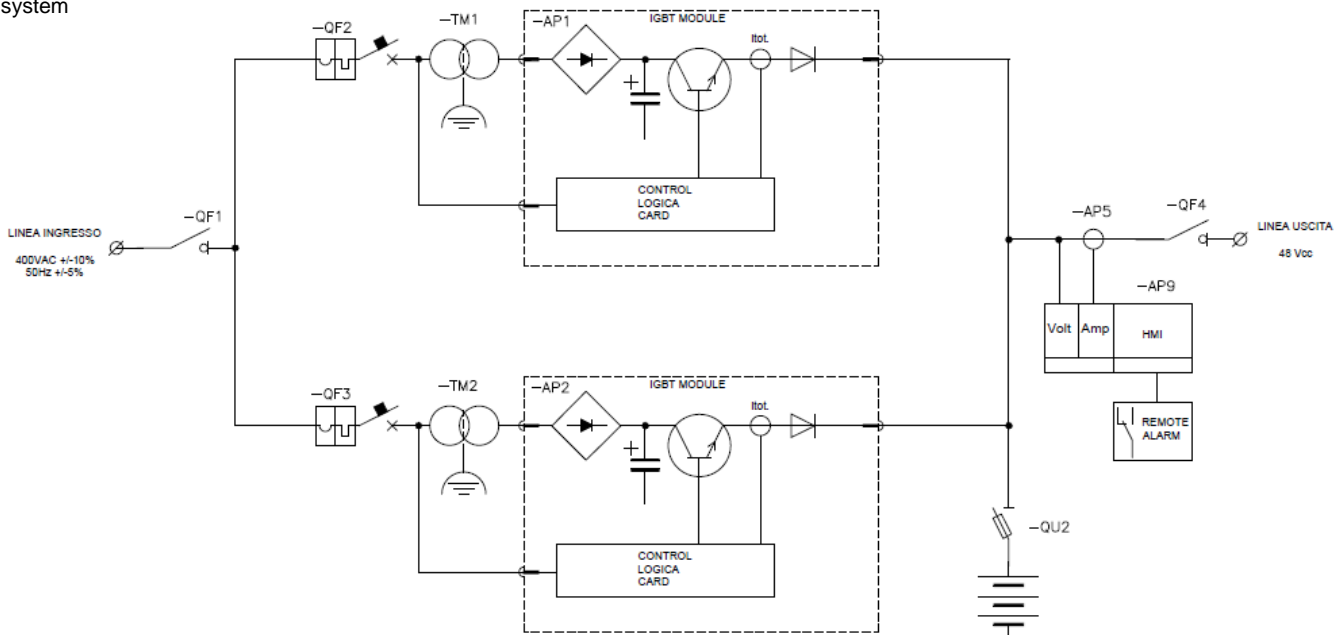


Fig.1  
 Sistema realizzato  
 prima di essere  
 inserito in armadio  
  
 Pic.1  
 System developed  
 before being  
 inserted in cabinet

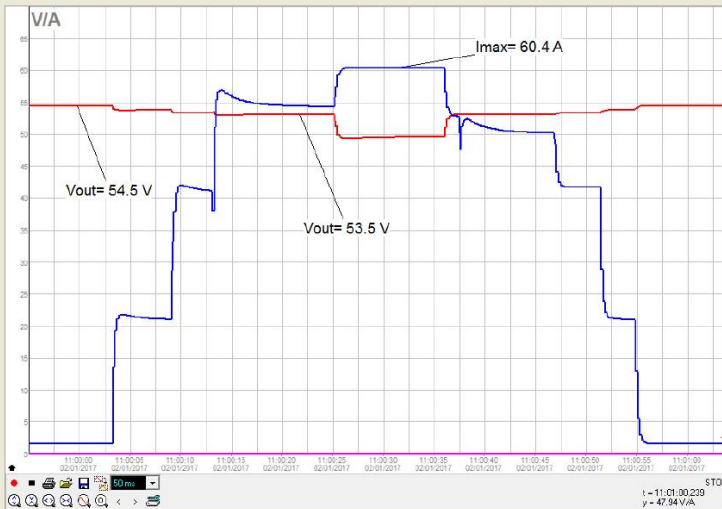
Sez.uscita  
 Output MCB

Fig.1a  
 Schema unifilare del  
 sistema

Pic.1°  
 Single line diagram  
 system



TEST REPORT - RECTIFIER Vout/Iout



ALLEGATO - ANNEX : 1A1

MULTIMETER REF: FLUKE 175 SN31730266  
 DC CURR CLAMP REF: FLUKE 1410 SN42450191  
 DATE LAST CALIB.SOFT TOOL: 02/01/2016

	NO LOAD	LOAD
Vfloat	54.5 V	53.5 V
Vboost	-	-
Vmanual	-	-
Vemer	-	-
Ripple RMS CH1:	50 mVac	% Vout <1%

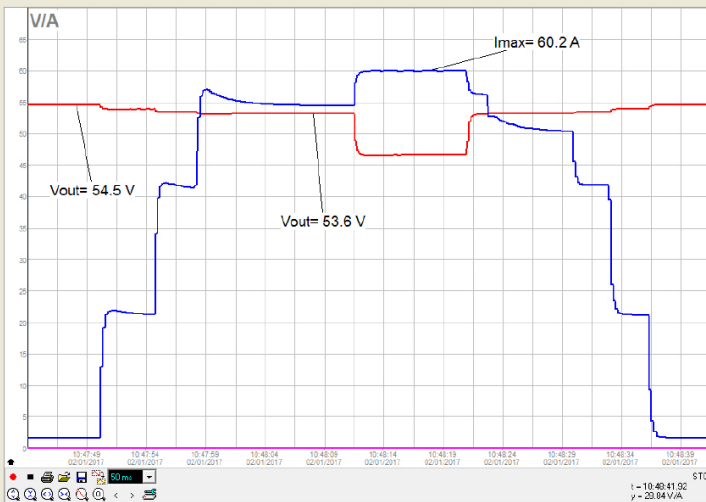
RIF.RECT.CH1-ALARM Vout MAX: 60 Vdc  
 RIF.RECT.CH1-ALARM Vout MIN: 30 Vdc  
 REF LOW VOLT BAT ALARM: 44 Vdc  
 REF END AUT VOLT BAT ALARM: 40 Vdc  
 OVERLOAD ALARM SETPOINT: 60 Amp

054.5 V	CH1	RECTIFIER
002 A	CH2	RECTIFIER
000.0 V	CH3	NOT USED
000 A	CH4	NOT USED

Fig.2 Andamento Vout/Iout Modulo nr. 1

Pic.2 Trends Vout/Iout module nr.1

TEST REPORT - RECTIFIER Vout/Iout



ALLEGATO - ANNEX : 1A2

MULTIMETER REF: FLUKE 175 SN31730266  
 DC CURR CLAMP REF: FLUKE 1410 SN42450191  
 DATE LAST CALIB.SOFT TOOL: 02/01/2016

	NO LOAD	LOAD
Vfloat	54.5 V	53.6 V
Vboost	-	-
Vmanual	-	-
Vemer	-	-
Ripple RMS CH1:	50 mVac	% Vout <1%

RIF.RECT.CH1-ALARM Vout MAX: 60 Vdc  
 RIF.RECT.CH1-ALARM Vout MIN: 30 Vdc  
 REF LOW VOLT BAT ALARM: 44 Vdc  
 REF END AUT VOLT BAT ALARM: 40 Vdc  
 OVERLOAD ALARM SETPOINT: 60 Amp

054.6 V	CH1	RECTIFIER
002 A	CH2	RECTIFIER
000.0 V	CH3	NOT USED
000 A	CH4	NOT USED

Fig.3 Andamento Vout/Iout Modulo nr. 2

Pic.3 Trends Vout/Iout module nr.2

TEST REPORT - RECTIFIER Vout/Iout



ALLEGATO - ANNEX

MULTIMETER REF: FLUKE 175 SN31730266  
 DC CURR CLAMP REF: FLUKE 1410 SN42450191  
 DATE LAST CALIB.SOFT TOOL: 02/01/2016

	NO LOAD	LOAD
Vfloat	54.5 V	53.5 V
Vboost	-	-
Vmanual	-	-
Vemer	-	-
Ripple RMS CH1:	50 mVac	% Vout <1%

RIF.RECT.CH1-ALARM Vout MAX: 60 Vdc  
 RIF.RECT.CH1-ALARM Vout MIN: 30 Vdc  
 REF LOW VOLT BAT ALARM: 44 Vdc  
 REF END AUT VOLT BAT ALARM: 40 Vdc  
 OVERLOAD ALARM SETPOINT: 60 Amp

054.8 V	CH1	RECTIFIER
002 A	CH2	RECTIFIER
000.0 V	CH3	NOT USED
000 A	CH4	NOT USED

Fig.4 Andamento Vout/Iout complessiva con due moduli in erogazione totale

Pic.4 Trends Vout/Iout total with the two modules in total supply

TEST REPORT - RECTIFIER Vbatt/Ibatt

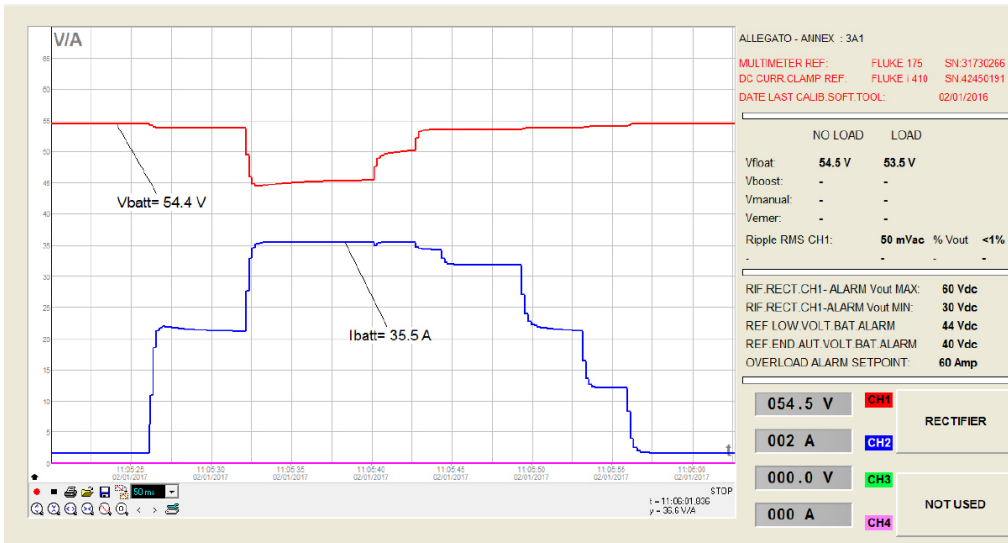


Fig.5 Andamento Vout/Iric.batterie Modulo nr.1

Pic.5 Trends Vout/Irecharge module nr.1

TEST REPORT - RECTIFIER Vbatt/Ibatt

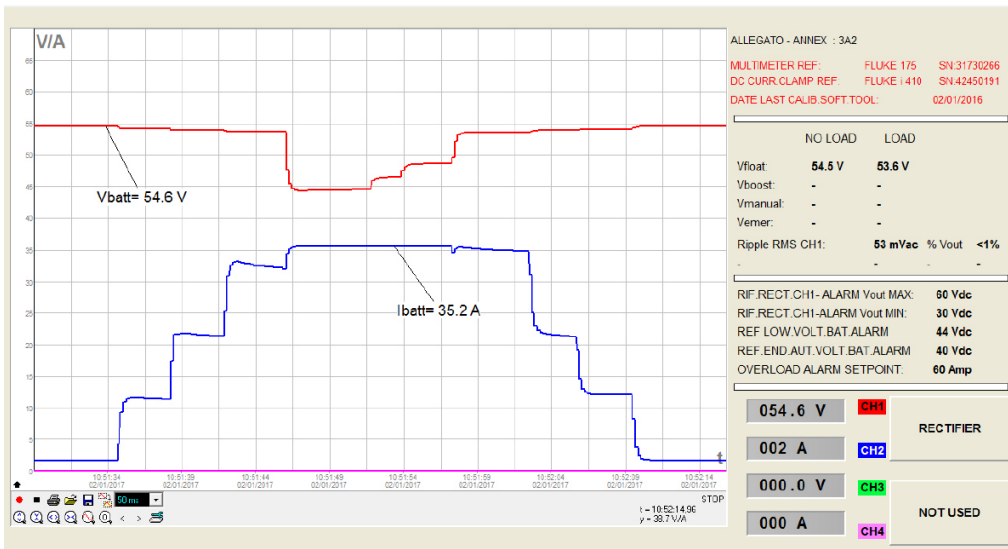


Fig.6 Andamento Vout/Iric.batterie Modulo nr.2

Pic.6 Trends Vout/Irecharge module nr.2

TEST REPORT - RECTIFIER Vbatt/Ibatt

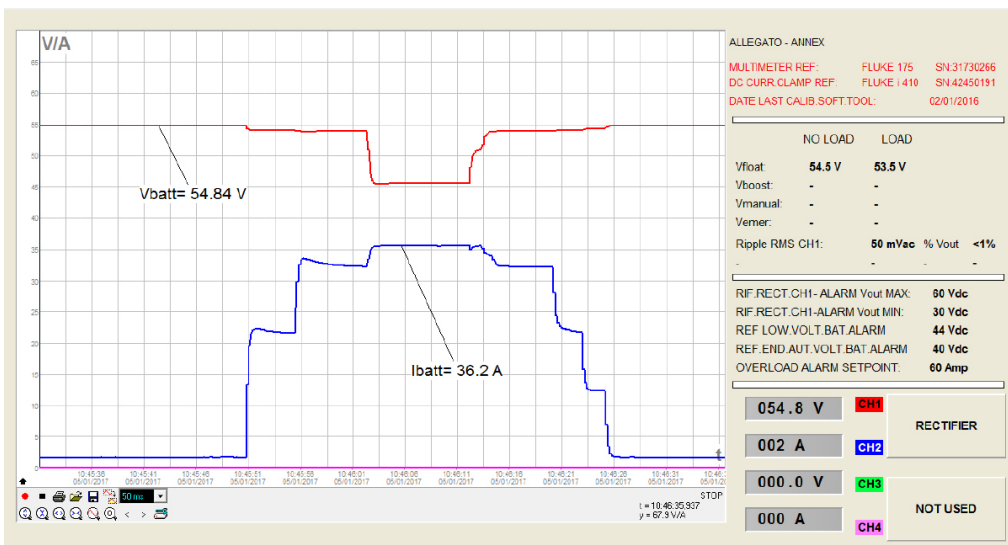


Fig.7 Andamento Vout/Iric.batterie con entrambe i moduli in erogazione

Pic.7 Trends Vout/Irecharge total with the two modules in total supply