

D-Vo LIGHT

MARELLI MOTORI DIGITAL AVR



MarelliMotori
Powering the future



The new Digital Voltage Regulator D-Vo is an electronic microprocessor-based device which manages the operating electrical parameters of synchronous generators. The power supply to the exciter is through a PWM power stage.

The D-Vo AVR can be interfaced and programmed using a proprietary PC application supplied by Marelli Motori.

The new D-Vo Light regulator is a standard feature of all marine generators and it is compatible with any Marelli Motori generator model.

FUNCTIONS AND KEY FEATURES

- ✓ **4 Operating modes:**
 - Automatic Voltage Regulation (AVR mode)
 - Power Factor Regulation (PF mode)
 - Reactive Power Regulation (VAR mode)
 - Field Current Regulation (FCR mode)
- ✓ **Stability parameters individually configurable (P.I.D.) or pre-defined standard parameterization**
- ✓ **Soft start with adjustable ramp, in AVR mode**
- ✓ **Parallel function with similar generators operated with Reactive Droop Compensation**
- ✓ **Generator protections:**
 - Field over-voltage
 - Field over-current
 - Generator over-voltage
 - Generator under-voltage
 - Generator over-current
 - Loss of sensing
 - Diode monitoring
- ✓ **Excitation limiters (over- and under-excitation)**
- ✓ **Watchdog**
- ✓ **Under-frequency limiter**
- ✓ **Certifications:**
 - CE
 - DNV / GL type approved

INPUTS

- ✓ 1-ph or 3-ph generator voltage sensing
- ✓ 1-ph or 3-ph generator current sensing
- ✓ 1-ph grid voltage sensing
- ✓ 3 auxiliary analogue inputs for remote setpoint control
- ✓ Input for external potentiometer
- ✓ 9 digital contacts (8 programmable)

OUTPUTS

- ✓ PWM output max. 10A continuous, 20A forcing for 10s
- ✓ 3 configurable output relays for alarm

PRODUCT SPECIFICATION



POWER SUPPLY

TECHNOLOGY	Digital
CONNECTION TYPE	Single phase
	Three phase
POWER SOURCE	Shunt
	Auxiliary winding
	PMG
	Separate AC source
VOLTAGE RANGE	Separate DC source
	AC: up to 250Vac (50Hz to 400Hz)
	DC: up to 300Vdc

CONTROL SUPPLY

CONNECTION TYPE	Single phase
	Three phase
POWER SOURCE	Shunt
	Auxiliary winding
	PMG
	Separate AC source
VOLTAGE RANGE	Separate DC source
	AC: 24Vac to 250Vac (50Hz to 400Hz)
	DC: 24Vdc to 300Vdc

GENERATOR VOLTAGE SENSING

CONNECTION TYPE	Single phase
	Three phase
VOLTAGE RANGE	AC: 100Vac to 480Vac \pm 15%, at 50/60Hz

GRID VOLTAGE SENSING

CONNECTION TYPE	Single phase
VOLTAGE RANGE	AC: 100Vac to 480Vac \pm 15%, at 50/60Hz

GENERATOR CURRENT SENSING

INPUTS	3 (6 terminals) for U-V-W phase sensing
CURRENT RANGE OF EACH INPUT	1Aac (50/60Hz)

REGULATION ACCURACY

AVR MODE	\pm 0.25% of rated voltage
FCR MODE	\pm 2% of rated exciter current
PF MODE	\pm 0.005PF (with PF between 0.9 lagging and 0.9 leading)
VAR MODE	\pm 2% of rated power
VOLTAGE MATCHING	\pm 2% of rated voltage

ENVIRONMENTAL CONDITIONS

OPERATING TEMPERATURE	-30°C to +70°C
STORAGE TEMPERATURE	-40°C to +80°C
HUMIDITY	<90%
DIMENSIONS	335 x 190 x 60 (mm)

EMC

TESTED ACCORDING TO THE FOLLOWING STANDARDS	EN 61000-6-4:2007 + A1:2011
	EN IEC 61000-3-2:2019
	EN 61000-3-3:2013 + A1:2019
	EN 61000-6-2:2005 + AC:2005
	CISPR 32:2015
	EN 55032:2015 + /AC:2016
	IEC 61000-4-2:2008
	EN 61000-4-2:2009
	IEC 61000-4-3:2006 + AMD1:2007 + AMD2:2010
	EN 61000-4-3:2006 + /A1:2008 + /A2:2010
IEC 61000-4-4:2012	
EN 61000-4-4:2012	
IEC 61000-4-5:2014	
EN 61000-4-5:2014	
IEC 61000-4-6:2013	
EN 61000-4-6:2014	
IEC 61000-4-8:2009	
EN 61000-4-8:2010	
IEC 61000-4-11:2004	
EN 61000-4-11:2004	
EN 61000-4-13:2002 + /A1:2009 + /A2:2016	

USER INTERFACE

- ✓ 1 USB port for connection to PC with Marelli Motori proprietary software or custom software

CONTACTS

Marelli Motori S.p.A.

Via Sabbionara 1
36071 Arzignano (VI) - Italy
(T) +39 0444 479 711
(F) +39 0444 479 888
info@marellimotori.com

Marelli Motori Asia Sdn Bhd

Lot 1-8, Persiaran Jubli Perak,
Seksyen 22, 40300 Shah Alam,
Selangor D.E. - Malaysia
(T) +60 355 171 999
(F) +60 355 171 883
malaysia@marellimotori.com