

PRODUCT SPECIFICATION

Introduction

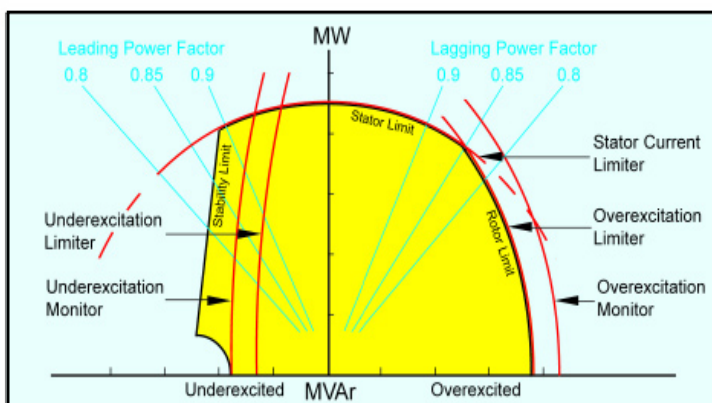
The BRUSH PRISMIC A32 excitation controller or automatic voltage regulator (AVR) incorporates all the features usually required for control of a BRUSHless generator equipped with a single phase permanent magnet generator (PMG) pilot exciter.



PRISMIC A32 Excitation Controller

The A32 includes two fully featured independent controllers and two independent power circuits within a single 6U 19 inch enclosure. Each controller acts as a hot standby for the other and each channel is independently controlled with automatic tracking included to enable smooth transfer from one controller to the other.

The A32 is one of the first excitation controllers to provide features such as an integrated power system stabiliser, a colour TFT display and Ethernet connectivity integrated into a single standard 19 inch rack package. These features also use already proven BRUSH technologies that have been developed for other BRUSH products and which are now in operational service with many large generating sets.



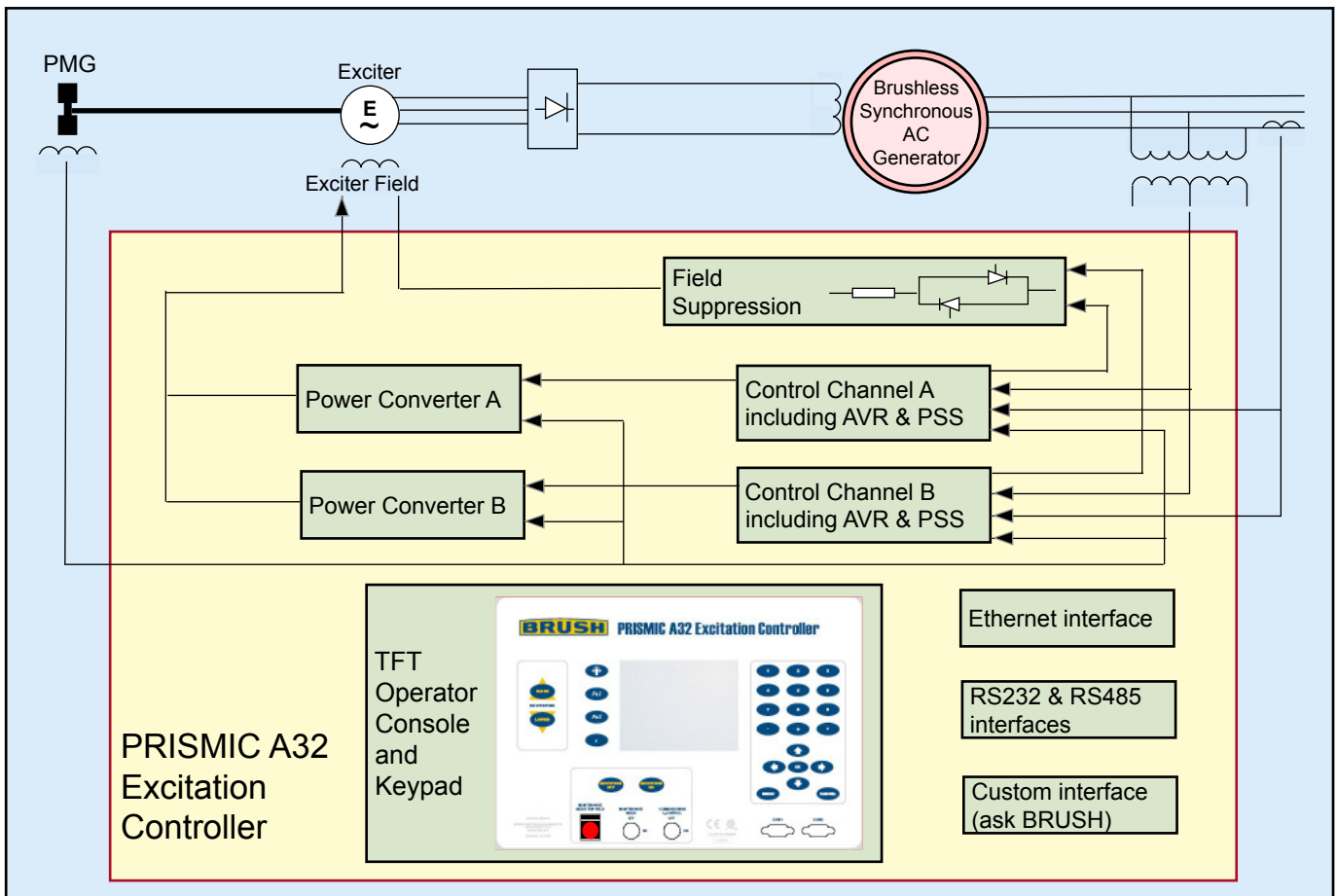
Limiter and Monitor Settings

Features

- High integrity dual redundant excitation system in a single 19 inch enclosure
- Built in power system stabiliser
- Negative forcing of exciter field voltage
- SCADA/DCS communications using Ethernet EGD or RS232/RS485 Modbus protocol
- Conforms to CE directives and CSA/UL approval pending
- Compatible connections with earlier BRUSH products for easy upgrades
- Automatic tracking between channels in all modes
- Built in colour TFT operator interface
- Including PC Human Machine Interface (HMI) software for advanced maintenance diagnostics and downloading of data
- Digital (discrete) outputs for remote status indication
- Analogue input signal for special applications
- Modes of operation include generator terminal voltage control, power factor control, VAr control and offload VAr
- Monitoring of rotating rectifier health and diode failure indication
- The following limiters are included:
 - Over excitation limiter
 - Under excitation limiter
 - Over flux limiter
 - Fast acting field current limiter
 - Stator current limiter
- Automatic switching to standby initiated by the following conditions:
 - Over voltage monitor triggered
 - Under voltage monitor triggered
 - Over excitation monitor triggered
 - Under excitation monitor triggered
 - Over flux monitor triggered
 - Voltage sensing error
- Speed detector included eliminating the need for separate speed switch unit
- Rotor ground fault detector input included eliminating the need for separate unit
- Auxiliary power supply input allows easy setting of unit without PMG supply present
- Soft start for controlled application of excitation

Ratings

Max continuous output current:	20A
Max 10 second output current:	30A*
Excitation supply voltage:	Single phase 110V to 330V
Supply frequency:	50Hz to 480Hz
Nominal sensing voltage:	100V to 120V selectable in 0.1V steps
Voltage sensing phases:	3 phase or single phase
Nominal generator frequency:	50Hz or 60Hz
Current transformer input nominal:	5A or 1A
Current transformer input burden:	0.3VA
Load taken by sensing inputs:	0.3VA
Maximum field voltage for forcing:	70% of available excitation supply voltage*
Minimum field voltage:	-70% of available excitation supply voltage*
Voltage adjustment range:	Selectable from +/-10% to +/-25%
Accuracy of control:	+/-0.5%
Auxiliary power supply:	24V d.c.
Operating temperature range:	0C to +55C
Storage temperature range:	-20C to +80C
Dimensions:	Width 483mm, height 266mm, depth 406mm
Weight:	23kg
* Depending upon regulation of excitation power supply.	



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