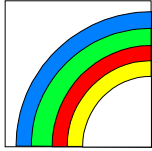


ACEDRIVE

DC drive for optimal efficiency and productivity



Control & Automation from L & T

L&T offers system solutions for control, regulation and monitoring. It plans and implements drive controls and automation projects from concept to commissioning.

Spectrum includes system analysis, project planning, hardware selection, application engineering, application software, manufacture, procurement, testing, integration, commissioning, training, spares and after-sales service.

Applications



Iron and Steel *

- .. Sponge iron plants
- .. Blast furnaces/arc furnaces
- .. Continuous casting plants
- .. Wire rod mills
- .. Annealing furnaces
- .. Cold rolling mills
- .. Process and finishing lines



Cement *

Plant wide drives, control and instrumentation from crusher to packing.

SPRS for ID, FD fans, classifier fans



Paper *

- .. Sectional paper machines
- .. Super calendars
- .. Slitters
- .. Rewinders



Material Handling *

- .. Port - based long conveyers
- .. Stacker reclaimers
- .. Bagging plants

* Exhaustive reference lists are available.



Chemical *

- .. LPG/gas sweetening
- .. Distillation column control
- .. Naphtha cracker and aromatic plants
- .. Lactum and anone plants



Power *

- .. Boiler interlocks, burner management
- .. Water treatment
- .. Coal & ash handling

Range of Equipment



Drive Systems

based on

- .. Fully digital DC drives - ACEDRIVE
- .. High performance, *flux vector control* AC drives with powerpack from YASKAWA ELECTRIC, Japan
- .. **Slip Power Recovery Systems (SPRS)**
- .. Transformers, motors, control desks, sensors and other electrics



Automation Systems

based on

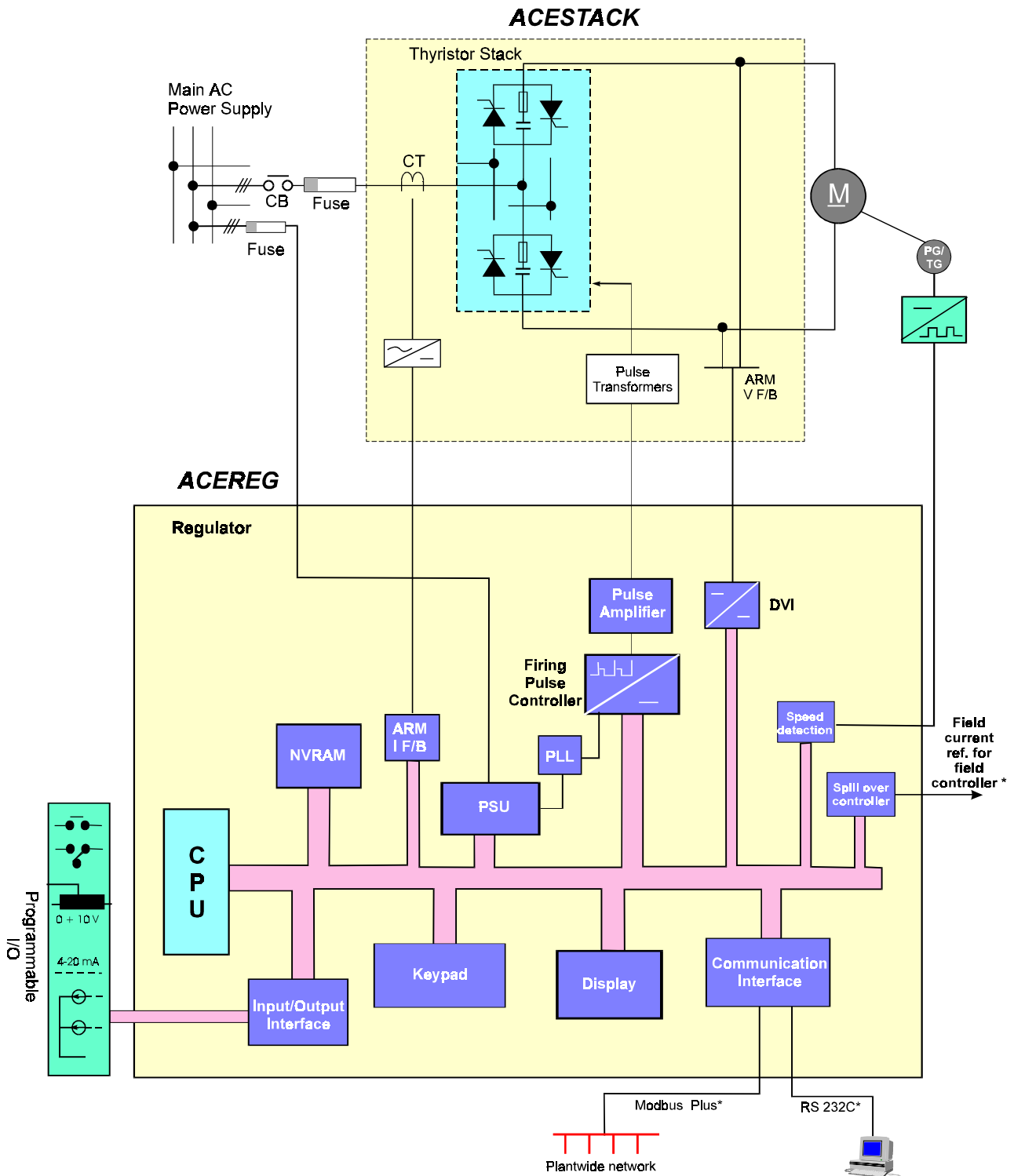
- .. High-end 'Quantum' process controllers & accessories from SCHNEIDER AUTOMATION, U.S.A.
- .. Mid-size 'GL' process controllers & accessories from YASKAWA ELECTRIC, Japan

Both with full range of 1000/1600 I/O modules and panels.

- .. Windows® 95/NT based 'Panorama' supervisory colour graphic operator stations. Network hardware and integration
- .. Programming packages, sensors, instruments, consoles and other accessories

* Exhaustive reference lists are available.

Basic circuit configuration



* Consult our sales office

The **ACEREG** is L&T's latest fully digital regulator for DC drive applications. **ACEREG** is simple to use for speed and torque control applications and comes with excellent environmental robustness.

Key Features



□ Built around powerful INTEL micro-controller offering contemporary architecture conforming to international standards of performance.



□ Advanced Phase Locked Loop technology with active feedback ensures flawless synchronisation - despite polluted mains.



□ Automatic adaptation to mains frequency over a range of 45 to 55 Hz.



□ State-of-art robust power supply designed to suit large power supply variations.



□ NVRAM storage obviates need of battery backup and does away with associated unreliability.



□ Fast four quadrant operation.



□ Accurate PI speed regulator and adaptive current regulator provides optimum response under varying load conditions.



□ Ample programmable digital I/O (24 Nos.) reduces electrical scheme complexity and external hardware.



□ Accepts up to 800 KHz encoder pulse train - far higher than prevailing industry standard!

User Benefits

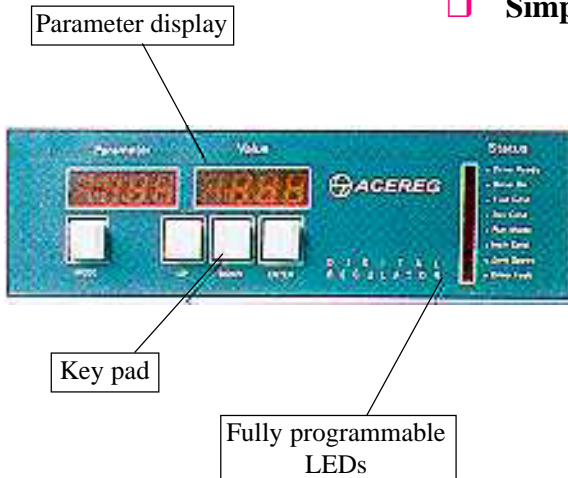


The **ACEREG** has been designed to facilitate

- ❑ Simple commissioning
- ❑ Easy operation
- ❑ Auto diagnostics

❑ Simple commissioning

- Auto tuning - control parameters are automatically adjusted during test run.
- For majority of applications, only few basic parameters need to be entered via keypad.
- Keypad input can be conveniently assigned to many nodes in control structure making phased commissioning very simple.
- Software structure can be modified even through keypad.



❑ Easy operation

- Display of all basic electrical parameters.
- Simultaneous observation of parameter number and its data.
- Ample metering outputs for speed, current, voltage etc.

❑ Auto diagnostics

- Fully programmable LEDs for continuous indication of operating status.
- Error log of last 30 faults with fault event and first trip indication - making maintenance a child's play.

Specifications



Environmental/Power conditions.

Maximum ambient temperature	55°C
Maximum humidity	95% RH Non-condensing
Input supply voltage	415V + 15% - 20%
Input supply frequency	50 Hz ± 10%
Noise immunity	Conforms to IEC 801-4 severity level 2

Control characteristics

Speed regulation feedback	0.01% with digital reference & encoder (0.1% with analog tacho feedback)
Speed holding accuracy	Better than 0.01% with encoder feedback (0.1% with analog tacho feedback)
Speed control range	100:1



270 (W) x 400 (H) x 140 (D)
(All dimensions in mm)

Weight : 6.4 kg (approximate)



Programmable I/Os

Programmable discrete inputs	16 [8 nos. isolated 24V DC; 8 nos. non isolated 24V DC]
Programmable discrete outputs	8 [6 nos. open-collector 24V DC, 120mA; 2 nos. potential free 230V AC, 1A]
Programmable analog outputs	3 [0-10V DC or ± 5V DC, link selectable.]



Protections

- Subcycle instantaneous overcurrent trip
- Line frequency detection
- Armature open-circuit detection
- Blocked rotor (drive stalled) detection
- DVI feedback loss detection
- Tacho feedback loss detection
- Motor overspeed detection
- Power supply fault detection
- Negative phase sequence/phase loss detection
- Reverse tacho polarity detection
- Integrated overload detection
- Watchdog timers' health detection
- 4 to 20 mA input loss (wire cut) detection

The **ACESTACK** is a highly aesthetic and space saving modular thyristor stack using latest technology semiconductor modules.

Key Features

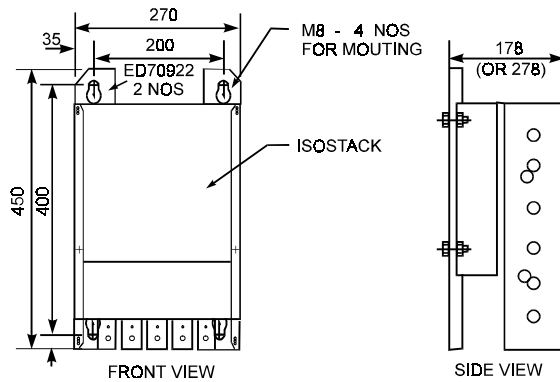


- ❑ Value for money design with a current / volume ratio 1.6 to 2.9 times better than conventional power stacks.
- ❑ Provision of add-on fan assemblies to give higher current ratings.
- ❑ All subassemblies on the stack are screw on type giving ease of access and assembly/disassembly.
- ❑ Three ranges available in single & double ended versions.

ACESTACK 05



- Current range **36A to 450A** continuous*

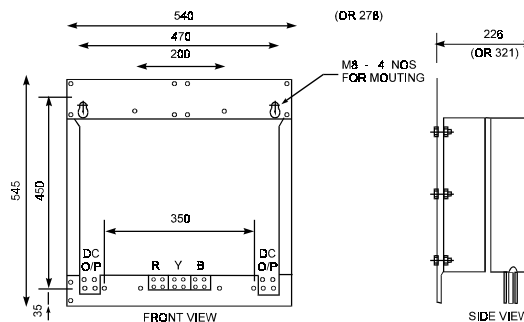


Typical mounting dimensions (in mm)

ACESTACK 10



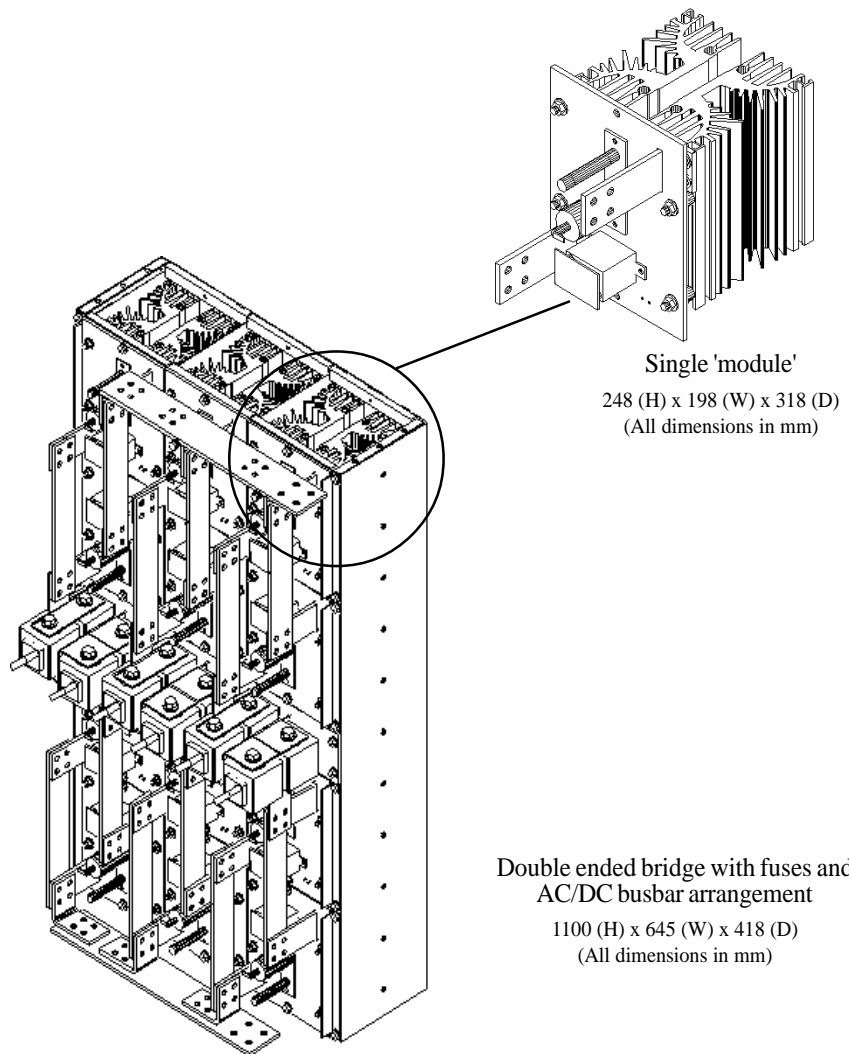
- Current range **545A to 950A** continuous*



Typical mounting dimensions (in mm)

ACESTACK 50

- ❑ Withdrawable modular design based on 50mm thick capsule device.
- ❑ Front access for module & quick fuse removal.
- ❑ Pre-calibrated bar-clamp assembly helps easy maintenance.
- ❑ Same 'module' design for single ended and double ended versions.
- ❑ Current range **900A to 2300A** continuous* suitable up to 1000 VAC supply.
- ❑ Suitable for mounting in 800W x 600D panel.



* All current ratings at 40°C ambient, for higher ambients upto 55°C please consult our sales office.

Product improvement is a continuous process at L&T.
The data given is therefore subject to revision without notice.

C&AD : DD : REV E : 0897
CAD 1010 1.5897



Notes :





Notes :

