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## UDE

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### ■ Unified Drive Electronics(UDE)

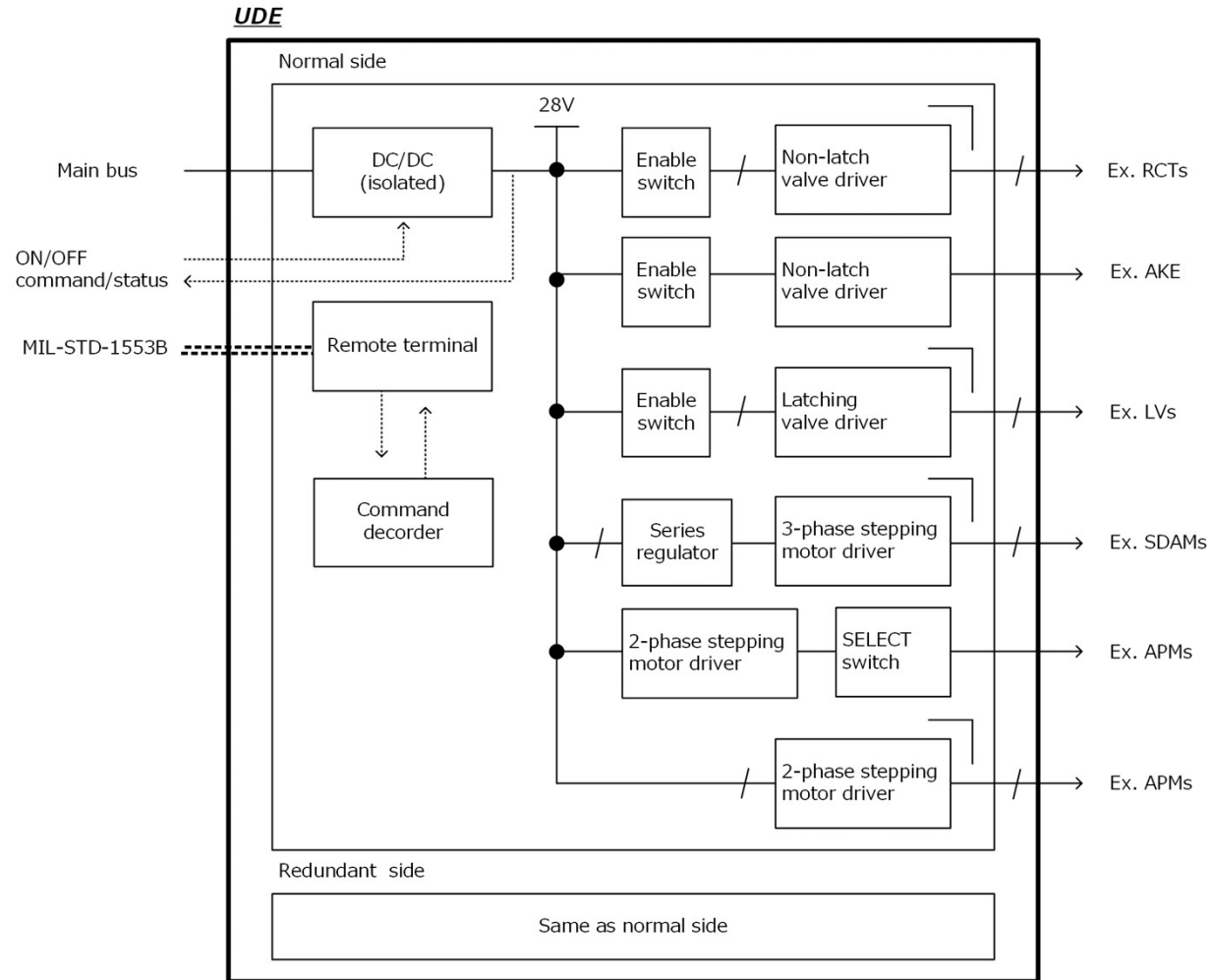
#### □ Functions and Features

- Driving the legacy actuators such as SADM, APM, thruster and valve, etc.
- Having internally fully-redundant configuration
- Sufficient quantity of drivers equipped required for most of GEO satellites
- Easily expanding the quantity of drivers by adding additional modules with minimum NRE cost
- DS2000 UDE has rich flight proven heritages

Details of DS2000 UDE are shown as follows:

# UDE

## ■ Block Diagram of DS2000 UDE



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## ■ Major characteristics of DS2000 UDE

Property	Characteristics
Communication I/F	MIL-STD-1553B, Discrete CMD, Active Bi-level TLM
Power I/F(=Main bus) Input voltage	70 to 110VDC(Option1:30 to 53VDC,Option2:25 to 33VDC)
Actuators I/F 3-phase stepping motor 2-phase stepping motor Non-latch solenoid valve Latching solenoid valve	Max. 4-axes(2N/2R) Max. 60-axes(30N/30R) Max. 26ch(13N/13R) Max. 72ch(36N/36R)
Power Consumption	13.5W nom. @stand-by
Operating temperature	-20 to +65 deg C
Dimension (L×W×H)	222×357×215(mm)
Mass	8.28 kg nom.
Random vibration Shock	10.02 (in plane),13.43(out of plane) Grms 9800m/s <sup>2</sup> srs
Radiation	For GEO 15 years
EMI/EMC	MIL-STD-461C compliant
EEE Parts grade	Class 1

# UDE

## External View of DS2000 UDE and Composing Modules



UDE consisting of following modules

- BUS IF x 2 (1N/1R)
- DRV1 x 2 (1N/1R)
- DRV2 x 2 (1N/1R)

Module	Function	Handling	Width	Mass
BUS IF	Power & Command & Telemetry I/F	Input power interface Command & Telemetry interface(included MIL-STD-1553B) Auxiliary power supply for internal circuits in UDE	44mm	1.6kg
DRV1	Command decoder & Drive circuit	Command decoder Max. 13ch for Non-latch solenoid valve(ex. AKE,RCT) Max. 36ch for Latching solenoid valve(ex. LV) Max. 2-axes for 3-phase stepping motor(ex. SADM) Max. 10-axes for 2-phase stepping motor(ex. APM)	25mm	0.9kg
DRV2	Additional drive circuit	Max. 20-axes of 2-phase stepping motor(ex. APM)	25mm	0.9kg