

Power Interlock System

Power Permit

Slow Power Abort

Fast Power Abort

String 2

External Intlk.

Power Part
(Voltage Source)

Switch Open Request

Earth circuit

Digital Control

Current Transducers

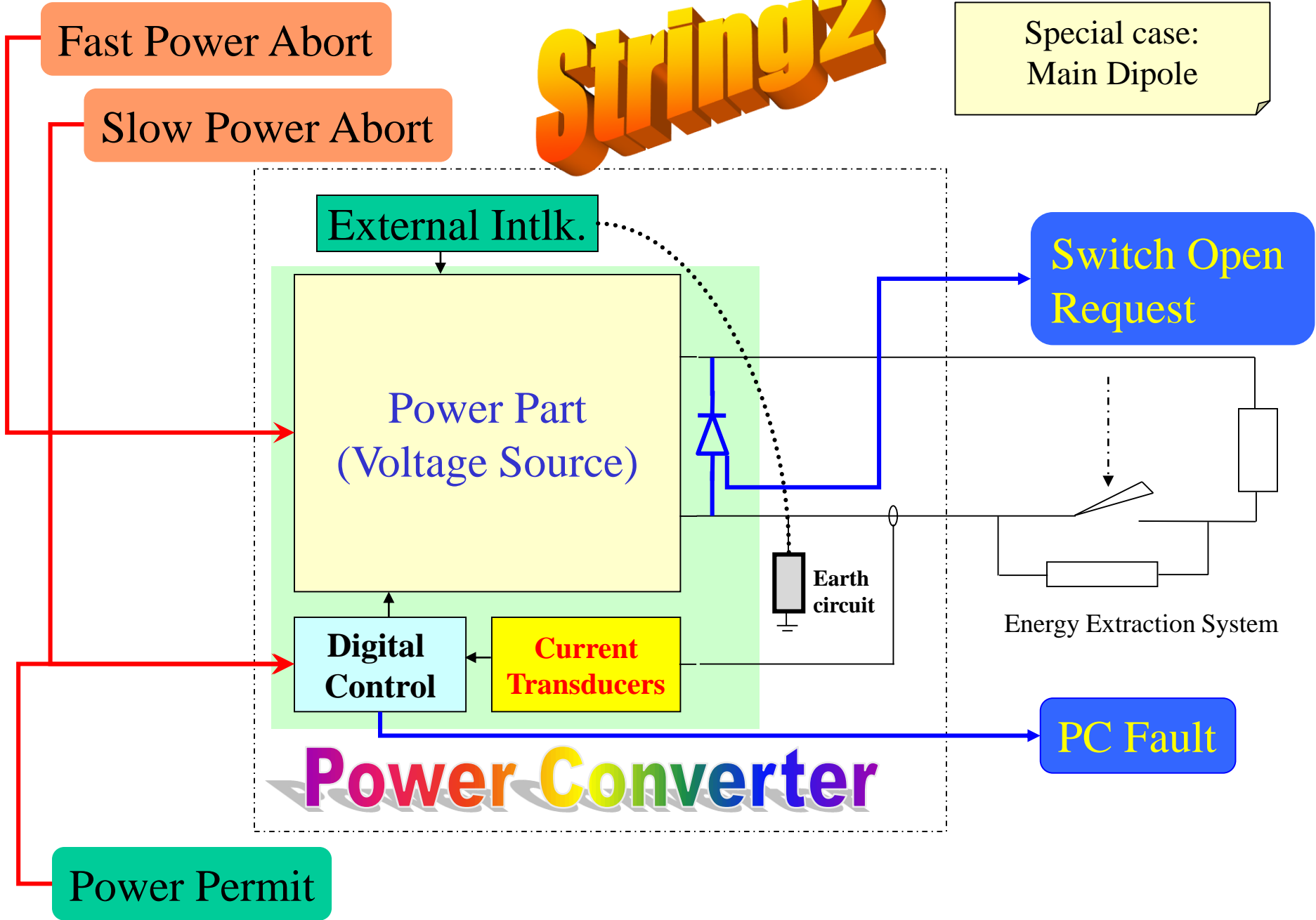
Energy Extraction System

PC Fault

Power Converter

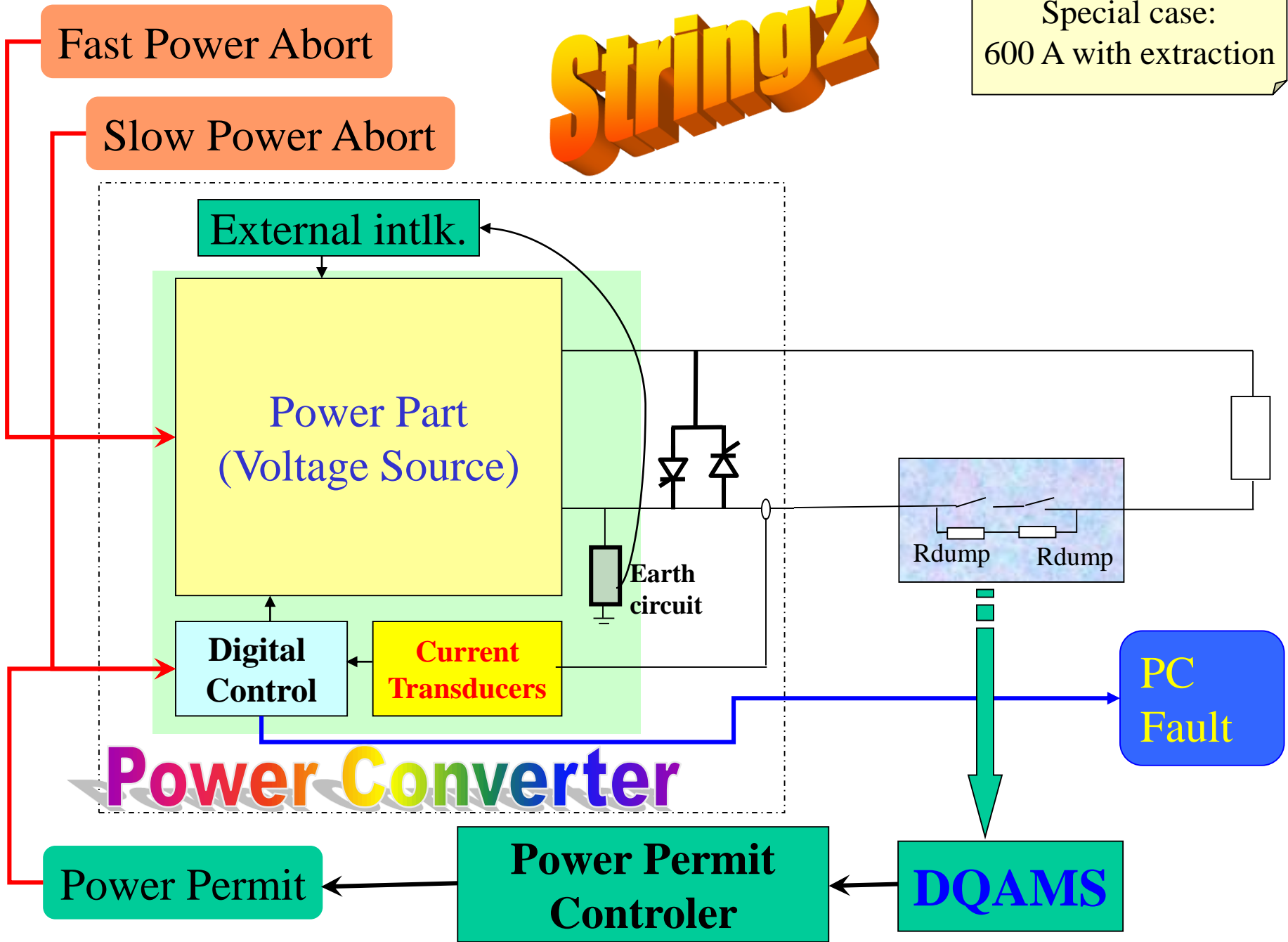
String2

Special case:
Main Dipole



String2

Special case:
600 A with extraction



Power Interlock System



~~Power Permit~~

Slow Power Abort

Fast Power Abort

External Intlk.

Discharge Request

Power Part
(Voltage Source)

Digital Control

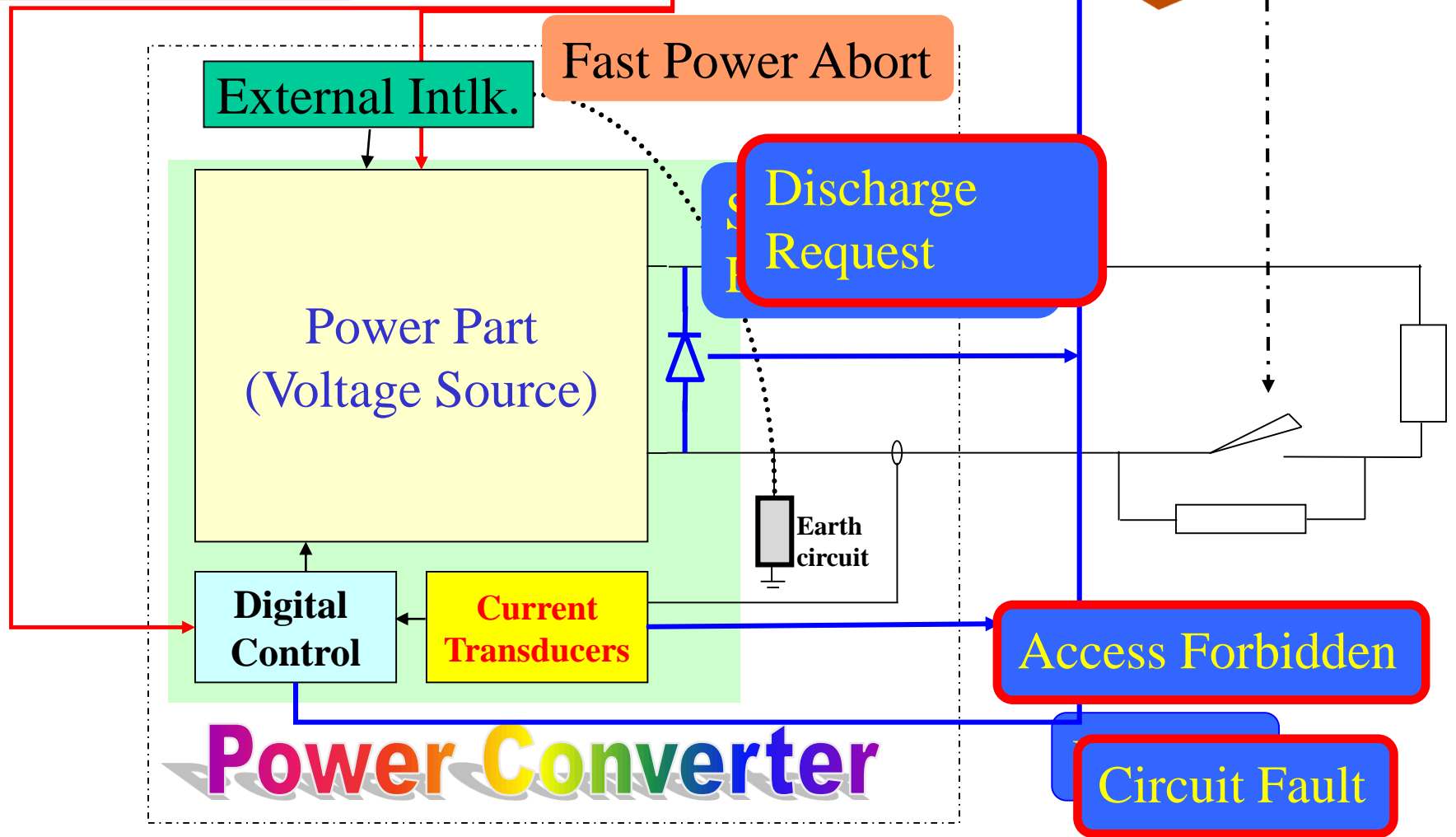
Current Transducers

Earth circuit

Access Forbidden

Power Converter

Circuit Fault



LHC

Special case:
Main Dipole
Main Quadrupole
Inner Triplet

Slow Power Abort
Fast Power Abort

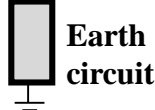
External Intlk.

Power Part
(Voltage Source)

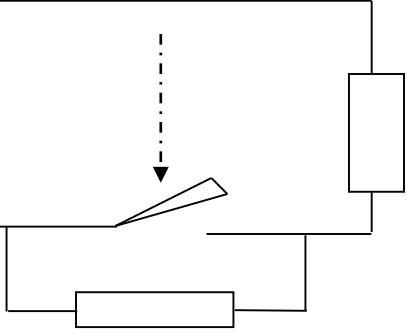
Digital
Control

Current
Transducers

Cable cooling



Discharge
Request



Energy Extraction System

Access
Forbidden

Circuit Fault

$I > 1000A$

Power Converter

LHC

Special case:
600 A with extraction

Fast Power Abort

External intlk.

Power Part
(Voltage Source)

Switch open

Earth
circuit

Rdump

Rdump

Digital
Control

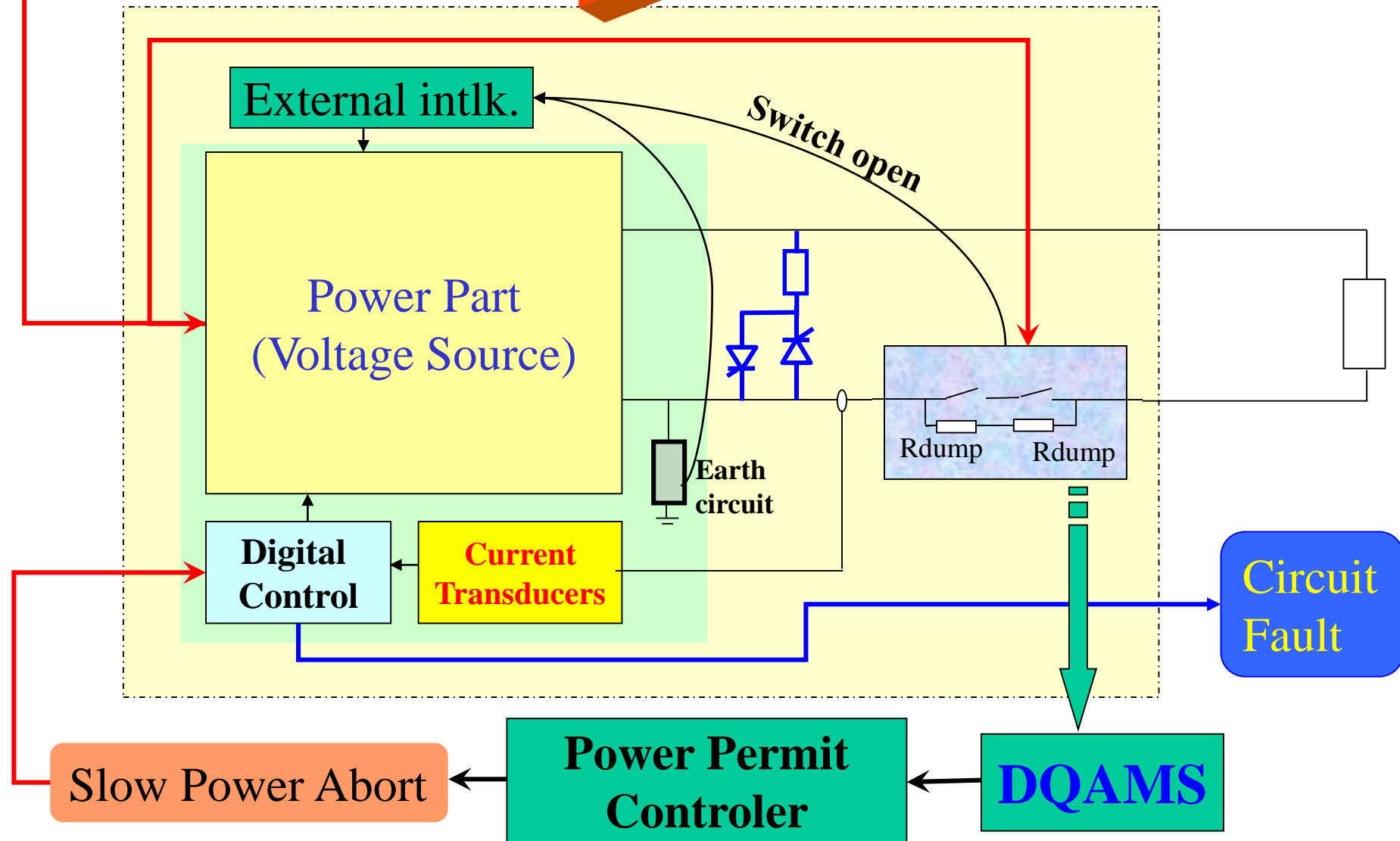
Current
Transducers

Circuit
Fault

Slow Power Abort

Power Permit
Controller

DQAMS





Special case:
[≈ 60 A, ≈ 8 V]

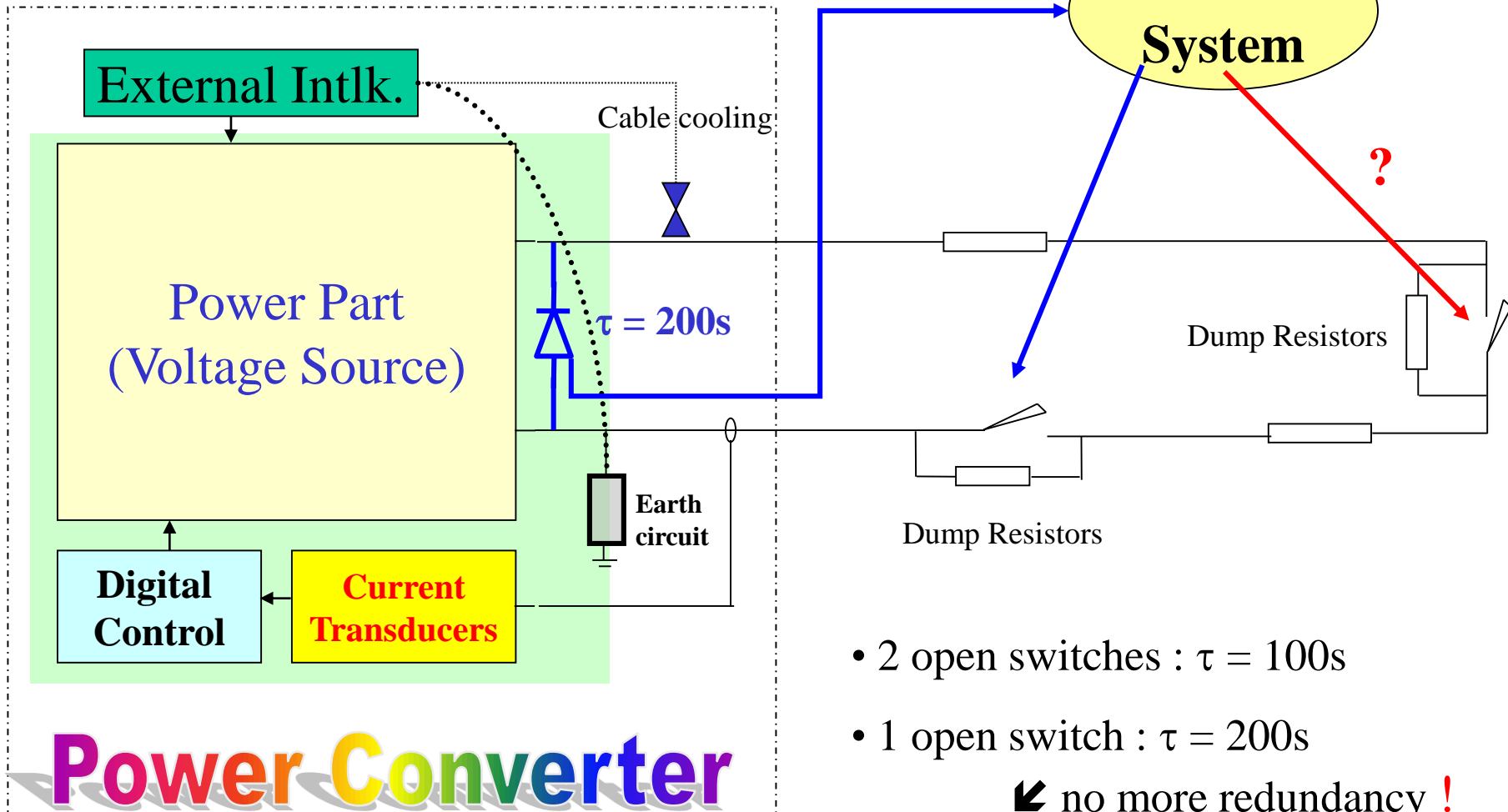
- **No hardware Power Interlock System**
- **Resistive current leads protection done by the power converter**

Special case:
[≈ 120 A, ≈ 10 V]

- **Idem 60A ? 600A ?**

LHC

Special case:
Main Dipole





Special case:
Access to specific sectors

- No beam but power maintained to certain converters (MB, MQF, MQD, Inner Triplet)
- Access authorized to specific sectors if $I < 1000A$

