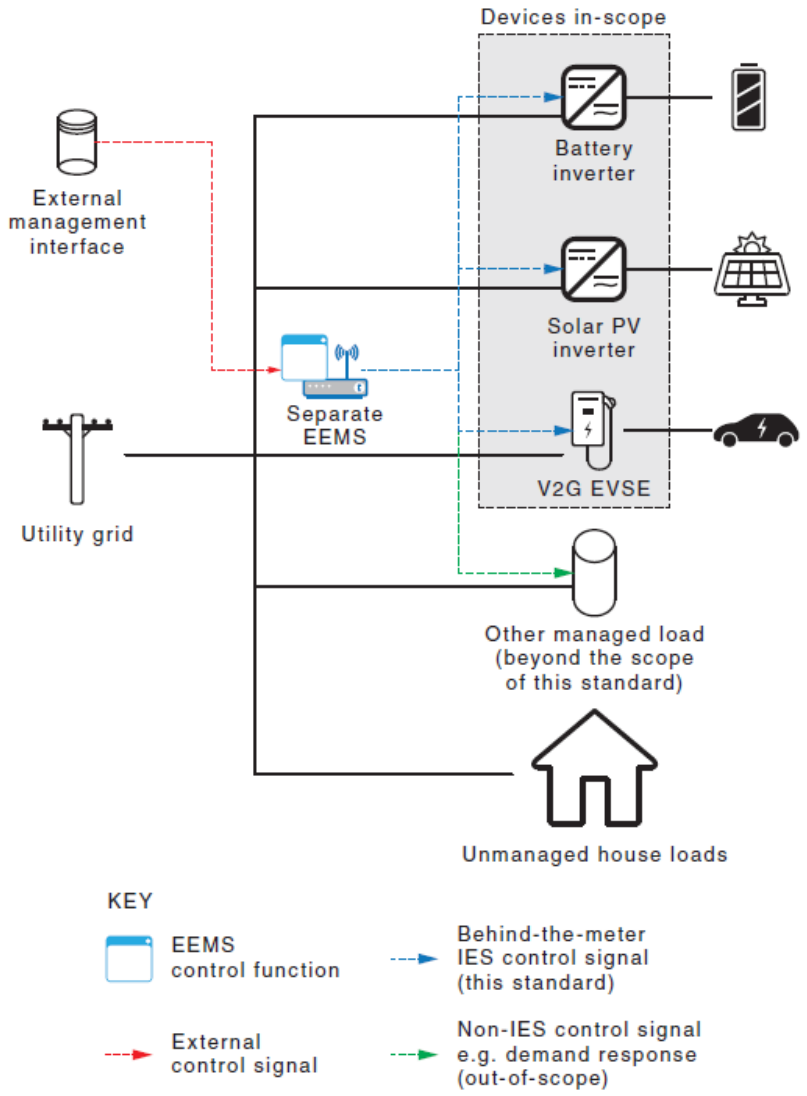
Draft AS 5438 Interoperability Requirements for Inverter Energy Systems

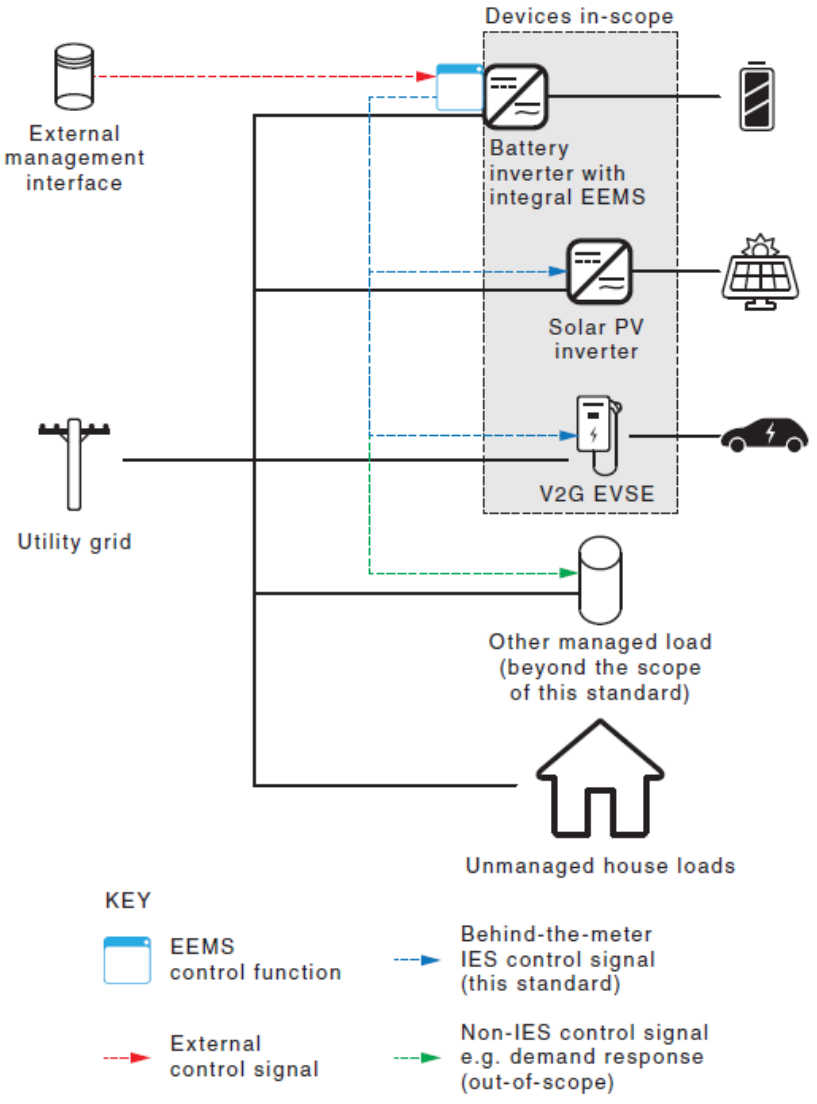
CSIP-AUS Connect 2025

Peter Kilby on behalf of Standards Australia Committee EL-042

Draft AS 5438 Scope and architecture



Local orchestration with separate EEMS device



Local orchestration with IES-integral EEMS

Draft AS 5438 Communication protocols

Protocol	Physical layer
Sunspec Modbus 1.2	Ethernet or RS-485
SEP2 - AS 5385:2023 (IEEE 2030.5:2018)	Ethernet
OCPP 2.1	Ethernet

- Inverters must support one or more of the protocols
- Electrical Energy Management System (EEMS) must support all three protocols
- Protocols must be disabled by default and require the owner's password to enable

Draft AS 5438 Cybersecurity requirements

- Guidance is sought in the public comment phase
- Reference made to applicable documents and standards including:
  - AS ETSI 303 645
  - EN 18031
  - IEEE 1547.3
  - *ACSC IOT Code of Practice*
  - *AEMO AESCSF*
  - *DR-AS 4755.2 Clause 4*

Draft AS 5438 Protocol functionality mapped

Supported functions	Read only OR Read/Write
Nameplate information	Read only
Monitoring information	Read only
Constant power factor mode	Read/Write
Volt-var response mode	Read/Write
Constant reactive power mode	Read/Write
Volt-watt response mode	Read/Write
Voltage trip and cease power generation	Read/Write
Frequency trip	Read/Write
Frequency droop	Read/Write
Connection and reconnection	Read/Write
Limit maximum active power	Read/Write
Set point control	Read/Write

Draft AS 5438 Testing and certification

- Testing procedures aligned with IEEE 1547.1
- Sunpsec Certification and OCPP 2.1 certification that meet all of the mandatory requirements are deemed to comply
- “The local IES communication interface shall be available and meet the communication criteria set forth in this document at all times that the IES is powered up.”