

DESIGN STANDARD

L. Metering and Monitoring

Revision log

Current issue

M. Metering and Monitoring - UoA Design Standards. FINAL Version 5.0 June 2024

Previous issues

Version	Authors	Description	Revision	Date
1.0	Vicki Jacobs, Capital Project Delivery, UoA / Vikram Kenjle, Manager ² Asset Planning & Energy, UoA	M. Metering and Monitoring - UoA Design Standards.	DRAFT Version 1.	December 2017
2.0	GHD	M. Metering and Monitoring - UoA Design Standards.	DRAFT Version 2	March 2018
3.0	Vicki Jacobs, Capital Project Delivery, UoA / GHD	M. Metering and Monitoring - UoA Design Standards.	FINAL Version 3	August 2018
4.0	Vicki Jacobs, Capital Project Delivery, UoA / GHD	M. Metering and Monitoring - UoA Design Standards.	FINAL Version 4	October 2021

Abbreviations

(refer 2Standard Volume A. Project Process Checklist)

1. Introduction

(refer 2Standard Volume A. Project Process Checklist)

2. General requirements

(refer 2Standard Volume A. Project Process Checklist)

3. Technical requirements

This section outlines the specific technical requirements for L. Metering and Monitoring Design Standards.

The Metering and Monitoring standard sets out the 8 R \$ requirements for the installation and integration of utilities metering into the University · Energy Metering and Monitoring System (EMMS) platform, which is used to monitor and space charging for electricity, gas, water and thermal meters installed in campus buildings. All the collected data can be utilised for the purpose of business case development, teaching and researching, and education awareness.

If any clarification is required regarding metering selection, re-configuration, space charging and major building services upgrades, please consult the UoA Manager -

3.3 Metering parameters

The minimum parameters of meter for electricity, gas and water are summarised in Table 1.

Table 1 Metering parameters

Туре	Value
	3 phase kW
	3 phase kVA (average maximum)
	3 phase kWh (totaliser)
	L-N Voltage (each phase)
	L-L Voltage (each phase)
Electricity (per meter)	3 phase kVar
	3 phase Current (each phase)
	3 phase Power Factor
	Frequency
	Total Harmonic Distortion (total and phase %)
	Neutral Current (calculated)
	Direction of Disturbance (upstream of downstream)
Gas	Uncorrected Volume (m3)
Water	Uncorrected volume (L)
	Flow (L/s)
Thermal	kW (Heating and Cooling)

3.4 UoA campus requirement

Table 2 states the various EMMS platforms installed to each UoA campus.

Table 2 UoA Campus EMMS platforms

UoA Campus	EMMS
North Adelaide	6FKQHLGHU (OHFWULF·V 3RZHU 0RQLWRULQ
	AZZO
Waite	6FKQHLGHU (OHFWULF·V 3RZHU 0RQLWRULQ
	AZZO
	Project dependent - 6 F K Q H L G H U (O H F W U L F · V 3 R Z H U
Roseworthy	AZZO; or
	Yurika (previously known as Metering Dynamics)

3.5 Meter installation

Installation of new sub-meter must comply with the protocol below:

- Trigger 1: Creation of new space as part of new build or major refurbishment of space. Depending on whether intended occupier
 RIVSDFHLV¶8QLYHUVLW\,QWHUQDO 7HQDQWV·RU¶([WHUQDO &RPPHUFLODNO 7HQ series needs to be chosen.
- Trigger 2: Replacement of old manually read sub-meter.
- Trigger 3: Special cases where a school or faculty has specialised equipment which may cause major distortions to the overall space charging model and goes against the principles of minimum cross subsidisation.



The amount of training and number of attendees to be trained is project specific and must be agreed with the University Facilities and Services Maintenance Manager prior to completing and finalising tender documents.

On project completion, a further 1 day (or as appropriate) must be spent on-site, with specific training on the system as installed.

Six months into the Defects Liability Period, or at a time nominated by the University staff, a further 1 full day on site training must be provided if and when requested by the University. Such training must concentrate on higher level functioning and control of the system.

3.18 References

Standard	Title
AS 60044.1-	
20017/ Amdt 1-	Instrument transformers ² Current transformers
A S 60044.1-2007.	Instrument Transformers (IEC 60044-1 Ed. 1.2 (2003) MOD)

AS 62053.22 (2005)

Electricity Metering Equipment (AC) Static meters for active energy (Classes

0.2S and 0.5 S)