

# ISO/IEC 30142-2:2022-08 (E)

## Internet of Things (IoT) - Underwater acoustic sensor network (UWASN) - Network management system - Part 2: Underwater management information base (u-MIB)

---

Contents	Page
FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references .....	7
3 Terms and definitions .....	7
4 Abbreviated terms .....	8
5 u-MIB overview and basic concepts .....	8
5.1 u-MIB definition.....	8
5.2 Necessity of u-MIB in U-NMS.....	9
5.3 U-NMS system architecture for using u-MIB.....	9
5.4 Structure of u-MIB.....	10
5.4.1 General .....	10
5.4.2 u-MIB objects .....	10
5.4.3 u-MIB OIDs.....	10
5.4.4 u-MIB OID hierarchy .....	10
5.5 General format of managed objects in u-MIB .....	11
6 General requirements for constructing u-MIB in U-NMS.....	12
7 Designing the managed objects of manager and agent u-MIB.....	14
7.1 Object identifiers of u-MIB.....	14
7.2 Classification of u-MIB tables.....	15
7.3 Classification of MOs in the manager and agent u-MIB .....	15
7.4 MOs of u-MIB Trap .....	22
8 Integrating MOs of the manager and agent u-MIB.....	23
Annex A (informative) u-MIB Module.....	25
A.1 Example of creating u-MIB objects.....	25
A.2 Example of accessing MOs between manager and agent.....	28
Bibliography.....	31
Figure 1 – Elements of u-MIB in U-NMS.....	8
Figure 2 – U-NMS system architecture for using u-MIB .....	10
Figure 3 – u-MIB hierarchy structure .....	11
Figure 4 – General format of u-MIB.....	12
Figure 5 – MOs of the manager and agent u-MIB .....	16
Figure 6 – Structure of <i>event_trap</i> .....	22
Figure 7 – Integration of MOs between manager and agent u-MIB .....	23
Figure 8 – MOs' requests via the network management protocol .....	24
Figure A.1 – Device battery information requests via u-MIB in U-NMS .....	29
Figure A.2 – Example of MO value access from u_MIB .....	30

Table 1 – u-MIB object groups .....	11
Table 2 – Attributes used for representing MOs in u-MIB .....	12
Table 3 – Underwater network requirements of u-MIB in U-NMS .....	12
Table 4 – Mandatory underwater device requirements of u-MIB in U-NMS .....	13
Table 5 – Mandatory data type requirements of u-MIB in U-NMS .....	14
Table 6 – OIDs of u-MIB .....	14
Table 7 – Defining u-MIB tables .....	15
Table 8 – MOs of <i>u_networks</i> .....	17
Table 9 – MOs of <i>u_devices</i> .....	19
Table 10 – MOs of <i>u_trap</i> object in u-MIB .....	22