

MGE USB Devices HID Description for NUT

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USB/HID UPS Devices

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Contributors

Company	Contact	E-mail alias
MGE UPS SYSTEMS	Luc Descotils	luc.descotils@mgeups.com
MGE UPS SYSTEMS	Dominique L. Lallement (Editor)	dominique.lallement@mgeups.com
MGE UPS SYSTEMS	Jerome Lecuire	jerome.lecuivre@mgeups.com
MGE UPS SYSTEMS	Jean-Luc Philippe	jean-luc.philippe@mgeups.com
Silicomp Ingénierie	Arnaud Qutte	arnaud.quette@silicomp.fr

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1. Introduction

This document defines the communication of various MGE UPS Power Device (**UPS**) within the Universal Serial Bus (**USB**) protocol as a Human Interface Device (**HID**). It provides information to guide OS, BIOS and Power management software designers in using the MGE UPS implementation of logical structures for Power Devices Class. It is assumed that the reader is familiar with the USB and HID Specification and HID Usage Tables and HID Power Device Class usages and reports (See **Related Documents** table).

?? Section 2, presents an overview of MGE UPS USB enabled ranges.

?? Section 3 to 8 presents models, collection trees and HID Report descriptors of the various ranges of UPS

?? Section 9 , presents common on/off sequences for various UPS ranges

Related Documents

Title	Location	Description
Universal Serial Bus HID Usage Tables for Power devices. Version 1.0	Also referred to as the Power Device Class ; posted at www.usb.org	This document defines the communication and Usage Tables of HID Power Devices.
Universal Serial Bus Device Class Definition for Human Interface Devices (HID) Version 1.1	Also referred to as the HID Class Specification ; posted at www.usb.org	This document describes the Human Interface Device (HID) class for use with Universal Serial Bus (USB).
Universal Serial Bus HID Usage Tables, Revision 1.1	Also referred to as the HID Usage Tables Document ; posted at www.usb.org	Many usages are defined within the USB Specification. This document is the most current and complete list of defined usages.
Universal Serial Bus Revision 2.0 Specification	Also referred to as the USB Specification ; posted at www.usb.org	This document defines an industry standard Universal Serial Bus.

Terms and Abbreviations

AC	Alternating Current.
DC	Direct Current.
HID	Human Interface Device. For definitions of the following HID terms, see the HID Specification and HID Usage Tables : COLLECTION, FEATURE, HID DESCRIPTOR, INPUT, ITEM, LOGICAL MAXIMUM, LOGICAL MINIMUM, OUTPUT, REPORT COUNT, REPORT, REPORTSIZE, UNIT, UNITEXPONENT, USAGE PAGE, USAGE
MGE	MGE UPS SYSTEMS
UPS	Uninterruptible Power Supply.
USB	Universal Serial Bus. For definitions of the following USB terms, see the USB Specification. DEVICE DESCRIPTOR

2. USB Enabled Range Overview

2.1 Generic UPS

The generic UPS model implemented for MGEDevices is compliant with **Power Device Class**. In particular, collections hierarchy and usages trees, engineering physical units implementation, semantic of usage follow the recommendations defined in this specification. The following figure presents an example of a generic and complete model of UPS

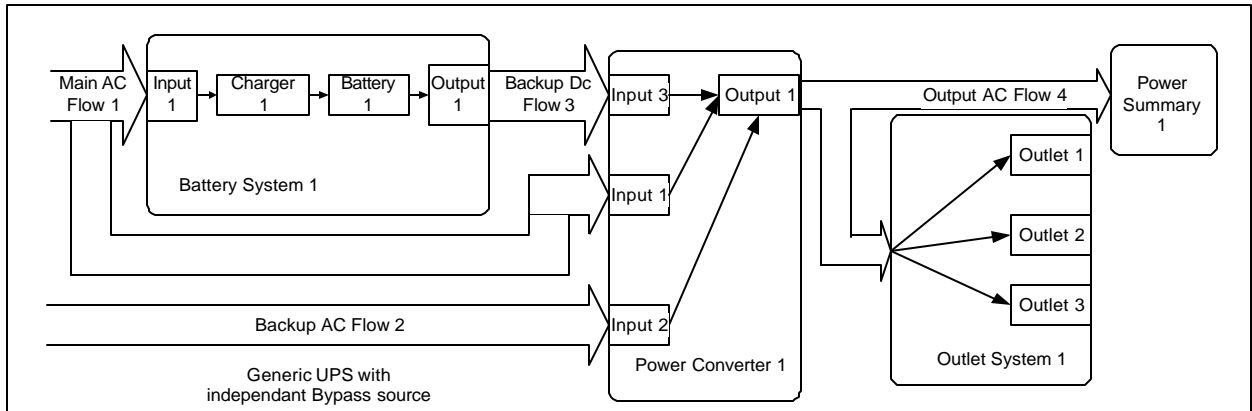


Figure 1: Generic UPS

Actual implementation of Power Device Class populates collection and items depending availability of hardware and software function and availability of data in the control part of the UPS. For instance, an UPS may or may not includes Outlet System, it may or may not includes a Bypass (Backup AC). In addition, small legacy UPS have few memory and processor resources, so few collections and items are made available trough USB communication. In any case mandatory collections and items according to the Power Device Class specification are present

To identify multiple instances of some collections (like Input, Output, Flow, Outlet ..), each collection is indexed by an ID. To facilitate UPS management application, MGE assign common values to ID's.

For Flows :	FlowId = 1	Mains AC
	FlowId = 2	Backup AC (for manual bypass)
	FlowId = 3	Backup DC emergency power supply.
	FlowId = 4	Main AC output.
For Power Converter :	InputId = 1	Mains AC input.
	InputId = 2	AC Input for automatic transfer
	InputId = 3	DC input.
	InputId = 4	AC input for manual bypass

For Outlet : OutletID corresponds to identification drawn near the corresponding outlet (a gang or an individual)

For all modules and parts that appears only a time, the 1 value will be used. (E.G. BatterySystemID = 1, BatteryID = 1, PowerConverterID = 1, PowerConverter output : OutputID =1).

To facilitate recognition of collections some collection are Vendor defined [e.g. 0xa1, 0x81, // COLLECTION (VendorDefined)]. The second byte of the code [i.e. 0x81] gives ID value [i.e. 1].

2.2 UPS Range Identification

For all products in standard USB Device Descriptor : **IdVendor = 0x0463**

For “Pulsar Ellipse Premium”, “Pulsar Evolution”, ”Pulsar Extreme C” and “Pulsar Esprit” ranges :

iManufacturer = index to string : “MGE UPS SYSTEMS”

Each range is identify by IDProduct and iProduct

For each model in a range (except Pulsar Ellipse) is identify by a MGE vendor specific item (iModel) located inside the PowerSummary collection.

For “Pulsar Ellipse” :

iManufacturer string is “MGE”

iModel item is not present, then model in the Range is identified in Flow(4)/ConfigApparentPower item

Name	IDProduct	iProduct index to string:	iModel index to string	Range Description
Pulsar Ellipse	0xFFFF	“ELLIPSE”	Not Present	300, 500 and 800 VA UPS for Home/Office PC and workstation protection
Pulsar Ellipse Premium	0xFFFF	“ellipse”	“PR500”, “PR650” “PR800”, “PR1200”	500, 650, 800, 1200 VA UPS for workstation and small server protection
Pulsar Evolution 500/800/1100	0x0001	“Evolution”	“500”, “800”, “1100”	500, 800, 1100 VA UPS for PC Server and storage protection
Pulsar Evolution 1500/2200/3000	0xFFFF	“Evolution”	“1500”, “2200”, “3000”	1500, 2200, 3000 VA UPS for PC Server and storage protection
Pulsar Extreme C	0xFFFF	“EXTREME”	“1500”, “2000” “2500”, “3000”	1500, 2000, 2500, 3000 VA UPS for Unix Server & Storage Protection
Pulsar Esprit	0xFFFF	“ESPRIT”	“1.4”, “3.1”, “4.5”, “6”, “9”	1.4 / 3.1 / 4.5 / 6 / 9 kVA UPS for WEB Server Protection

Complete information about Pulsar ranges is posted at : www.mgeups.com

On Product area : Product and Application descriptions

On Download area : Documentation (Data Sheet, Quick Start and User Manual)

On Download area : Free Power Management Software packages

Pulsar Extreme, Comet Extreme, Galaxy 3000 and Galaxy PW with USBI option card are USB enabled. Their HID descriptors will be available in a later version of the present document.

3. Pulsar Ellipse

Intended for PC and Mac users, **Pulsar Ellipse** protects home and office configurations ranging from stand-alone PCs to workgroup servers. (USB or RS232 port, local outlets, Stand by)

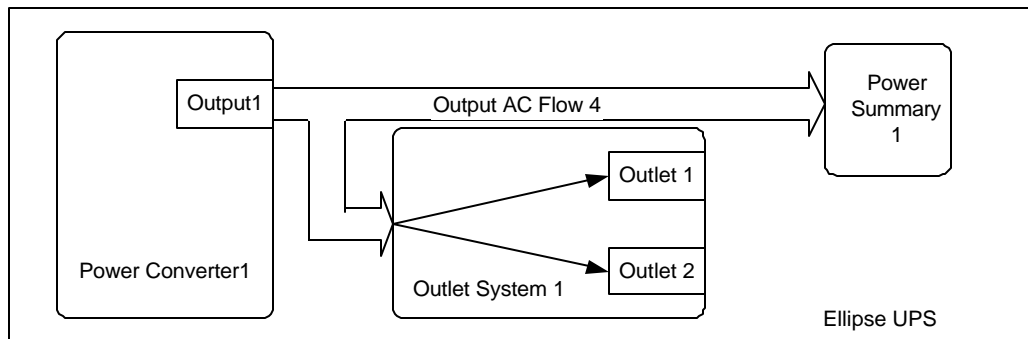


Figure 2: Pulsar Ellipse UPS

3.1 The Ellipse Collection tree

Collection UPS

Collection PowerConverter

Collection Output

Collection Flow (4:AC Output)

Collection PowerSummary

Collection OutletSystem

Collection Outlet (1:Non Switchable)

Collection Outlet (2:Switchable)

3.2 The Ellipse HID report descriptor

```

char ReportDescriptor[532] = {
    0x05, 0x84, // USAGE_PAGE (Power Device)
    0x09, 0x04, // USAGE (UPS)
    0xa1, 0x00, // COLLECTION (Physical)
    0x09, 0x16, // USAGE (PowerConverter)
    0xa1, 0x00, // COLLECTION (Physical)
    0x09, 0x17, // USAGE (PowerConverterID)
    0x85, 0x0b, // REPORT_ID (11)
    0x75, 0x08, // REPORT_SIZE (8)
    0x95, 0x01, // REPORT_COUNT (1)
    0x15, 0x00, // LOGICAL_MINIMUM (0)
    0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
    0x65, 0x00, // UNIT (None)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0x09, 0x1c, // USAGE (Output)
    0xa1, 0x00, // COLLECTION (Physical)
    0x09, 0x1d, // USAGE (OutputID)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0x09, 0x30, // USAGE (Voltage)
    0x85, 0x0e, // REPORT_ID (14)
    0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
    0x55, 0x07, // UNIT_EXPONENT (7)
    0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
    0x09, 0x53, // USAGE (LowVoltageTransfer)
    0x85, 0x13, // REPORT_ID (19)
    0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
    0x09, 0x54, // USAGE (HighVoltageTransfer)
    0x75, 0x10, // REPORT_SIZE (16)
    0x26, 0xff, 0x7f, // LOGICAL_MAXIMUM (32767)
    0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
    0xc0, // END_COLLECTION
    0xc0, // END_COLLECTION
    0x09, 0x1e, // USAGE (Flow)
    0xa1, 0x84, // COLLECTION (VendorDefined)
    0x09, 0x1f, // USAGE (FlowID)
    0x85, 0x0b, // REPORT_ID (11)
    0x75, 0x08, // REPORT_SIZE (8)
    0x95, 0x01, // REPORT_COUNT (1)
    0x65, 0x00, // UNIT (None)
    0x55, 0x00, // UNIT_EXPONENT (0)
    0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0x09, 0x40, // USAGE (ConfigVoltage)
    0x85, 0x12, // REPORT_ID (18)
    0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
    0x55, 0x07, // UNIT_EXPONENT (7)
    0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
    0x09, 0x42, // USAGE (ConfigFrequency)
    0x85, 0x0d, // REPORT_ID (13)
    0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
    0x55, 0x00, // UNIT_EXPONENT (0)
    0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
    0x09, 0x43, // USAGE (ConfigApparentPower)
    0x75, 0x10, // REPORT_SIZE (16)
    0x26, 0xff, 0x7f, // LOGICAL_MAXIMUM (32767)
    0x66, 0x21, 0xd1, // UNIT (SI Lin:Power)
    0x55, 0x07, // UNIT_EXPONENT (7)
    0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
    0xc0, // END_COLLECTION
    0x09, 0x24, // USAGE (PowerSummary)

```



```

0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x25, // USAGE (PowerSummaryID)
0x09, 0x1f, // USAGE (FlowID)
0x85, 0x0b, // REPORT_ID (11)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0x2c, // USAGE (CapacityMode)
0x85, 0x0c, // REPORT_ID (12)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x29, // USAGE (RemainingCapacityLimit)
0x09, 0x8d, // USAGE (CapacityGranularity1)
0x95, 0x02, // REPORT_COUNT (2)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x89, // USAGE (iDeviceChemistry)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x85, 0x10, // REPORT_ID (16)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0xfd, // USAGE (iManufacturer)
0x09, 0xfe, // USAGE (iProduct)
0x09, 0xff, // USAGE (iSerialNumber)
0x95, 0x03, // REPORT_COUNT (3)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x35, // USAGE (PercentLoad)
0x85, 0x0e, // REPORT_ID (14)
0x95, 0x01, // REPORT_COUNT (1)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0x83, // USAGE (DesignCapacity)
0x09, 0x67, // USAGE (FullChargeCapacity)
0x85, 0x0c, // REPORT_ID (12)
0x95, 0x02, // REPORT_COUNT (2)
0x75, 0x08, // REPORT_SIZE (8)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x66, // USAGE (RemainingCapacity)
0x85, 0x16, // REPORT_ID (22)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x66, // USAGE (RemainingCapacity)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x68, // USAGE (RunTimeToEmpty)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0x75, 0x10, // REPORT_SIZE (16)
0x26, 0x08, 0x07, // LOGICAL_MAXIMUM (1800)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x68, // USAGE (RunTimeToEmpty)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x09, 0x73, // USAGE (CommunicationLost)
0x85, 0x01, // REPORT_ID (1)

```

```

0x95, 0x01, // REPORT_COUNT (1)
0x75, 0x01, // REPORT_SIZE (1)
0x65, 0x00, // UNIT (None)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x45, 0x00, // PHYSICAL_MAXIMUM (0)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x73, // USAGE (CommunicationLost)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x75, 0x07, // REPORT_SIZE (7)
0x81, 0x03, // INPUT (Cnst,Var,Abs)
0x09, 0x00, // USAGE (Undefined)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0xd0, // USAGE (ACPresent)
0x09, 0x44, // USAGE (Charging)
0x09, 0x45, // USAGE (Discharging)
0x09, 0x42, // USAGE (BelowRemainingCapacityLimit)
0x09, 0x4b, // USAGE (NeedReplacement)
0x0b, 0x61, 0x00, 0x84, 0x00, // USAGE (Power Device:Good)
0x0b, 0x69, 0x00, 0x84, 0x00, // USAGE (Power Device:ShutdownImminent)
0x0b, 0x65, 0x00, 0x84, 0x00, // USAGE (Power Device:Overload)
0x0b, 0x62, 0x00, 0x84, 0x00, // USAGE (Power Device:InternalFailure)
0x85, 0x02, // REPORT_ID (2)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x09, // REPORT_COUNT (9)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x75, 0x07, // REPORT_SIZE (7)
0x95, 0x01, // REPORT_COUNT (1)
0x81, 0x03, // INPUT (Cnst,Var,Abs)
0x09, 0xd0, // USAGE (ACPresent)
0x09, 0x44, // USAGE (Charging)
0x09, 0x45, // USAGE (Discharging)
0x09, 0x42, // USAGE (BelowRemainingCapacityLimit)
0x09, 0x4b, // USAGE (NeedReplacement)
0x0b, 0x61, 0x00, 0x84, 0x00, // USAGE (Power Device:Good)
0x0b, 0x69, 0x00, 0x84, 0x00, // USAGE (Power Device:ShutdownImminent)
0x0b, 0x65, 0x00, 0x84, 0x00, // USAGE (Power Device:Overload)
0x0b, 0x62, 0x00, 0x84, 0x00, // USAGE (Power Device:InternalFailure)
0x95, 0x09, // REPORT_COUNT (9)
0x75, 0x01, // REPORT_SIZE (1)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x95, 0x01, // REPORT_COUNT (1)
0x75, 0x07, // REPORT_SIZE (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x57, // USAGE (DelayBeforeShutdown)
0x85, 0x0f, // REPORT_ID (15)
0x75, 0x18, // REPORT_SIZE (24)
0x95, 0x01, // REPORT_COUNT (1)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0x15, 0xff, // LOGICAL_MINIMUM (-1)
0x27, 0xfe, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65534)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x56, // USAGE (DelayBeforeStartup)
0x85, 0x11, // REPORT_ID (17)
0x55, 0x01, // UNIT_EXPONENT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0xc0, // END_COLLECTION
0x09, 0x18, // USAGE (OutletSystem)

```

```

0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x19, // USAGE (OutletSystemID)
0x85, 0x0b, // REPORT_ID (11)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x20, // USAGE (Outlet)
0xa1, 0x81, // COLLECTION (VendorDefined)
0x09, 0x21, // USAGE (OutletID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x09, 0x6c, // USAGE (Switchable)
0x85, 0x0c, // REPORT_ID (12)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x20, // USAGE (Outlet)
0xa1, 0x82, // COLLECTION (VendorDefined)
0x09, 0x21, // USAGE (OutletID)
0x85, 0x0b, // REPORT_ID (11)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x1f, // USAGE (FlowID)
0x85, 0x0d, // REPORT_ID (13)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x09, 0x6c, // USAGE (Switchable)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0x85, 0x03, // REPORT_ID (3)
0x75, 0x01, // REPORT_SIZE (1)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x75, 0x07, // REPORT_SIZE (7)
0x81, 0x03, // INPUT (Cnst,Var,Abs)
0x09, 0x00, // USAGE (Undefined)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x0b, 0x29, 0x00, 0x85, 0x00, // USAGE (Battery
System:RemainingCapacityLimit)
0x85, 0x14, // REPORT_ID (20)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x65, 0x00, // UNIT (None)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0xc0 // END_COLLECTION
};

```

4. Pulsar Ellipse Premium

Pulsar ellipse premium is the UPS is intend to maximize the availability of PCs, workstations and small servers used by home office users and small/medium businesses. (Line Interactive, USB or Serial port, Local outlets, Programmable outlets)

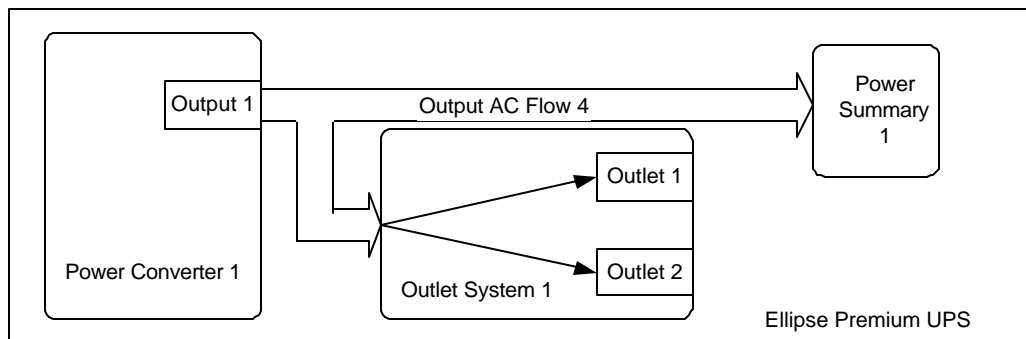


Figure 3: Pulsar Ellipse Premium UPS

4.1 The Ellipse Premium Collection tree

Collection UPS

Collection PowerConverter

Collection Output

Collection Flow (4:AC Output)

Collection PowerSummary

Collection OutletSystem

Collection Outlet (1:Non Switchable)

Collection Outlet (2:Switchable)

4.2 The Ellipse Premium HID report descriptor

```

char ReportDescriptor[568] = {
    0x05, 0x84, // USAGE_PAGE (Power Device)
    0x09, 0x04, // USAGE (UPS)
    0xa1, 0x00, // COLLECTION (Physical)
    0x09, 0x16, // USAGE (PowerConverter)
    0xa1, 0x00, // COLLECTION (Physical)
    0x09, 0x17, // USAGE (PowerConverterID)
    0x85, 0x0b, // REPORT_ID (11)
    0x75, 0x08, // REPORT_SIZE (8)
    0x95, 0x01, // REPORT_COUNT (1)
    0x15, 0x00, // LOGICAL_MINIMUM (0)
    0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
    0x65, 0x00, // UNIT (None)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0x09, 0x1a, // USAGE (Input)
    0xa1, 0x81, // COLLECTION (VendorDefined)
    0x09, 0x02, // USAGE (PresentStatus)
    0xa1, 0x02, // COLLECTION (Logical)
    0x09, 0x6e, // USAGE (Boost)
    0x85, 0x04, // REPORT_ID (4)
    0x25, 0x01, // LOGICAL_MAXIMUM (1)
    0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
    0x09, 0x6e, // USAGE (Boost)
    0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
    0xc0, // END_COLLECTION
    0xc0, // END_COLLECTION
    0x09, 0x1c, // USAGE (Output)
    0xa1, 0x00, // COLLECTION (Physical)
    0x09, 0x1d, // USAGE (OutputID)
    0x85, 0x0b, // REPORT_ID (11)
    0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0x09, 0x30, // USAGE (Voltage)
    0x85, 0x0e, // REPORT_ID (14)
    0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
    0x55, 0x07, // UNIT_EXPONENT (7)
    0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
    0x09, 0x53, // USAGE (LowVoltageTransfer)
    0x85, 0x13, // REPORT_ID (19)
    0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
    0x09, 0x54, // USAGE (HighVoltageTransfer)
    0x75, 0x10, // REPORT_SIZE (16)
    0x26, 0xff, 0x7f, // LOGICAL_MAXIMUM (32767)
    0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
    0xc0, // END_COLLECTION
    0xc0, // END_COLLECTION
    0x09, 0x1e, // USAGE (Flow)
    0xa1, 0x84, // COLLECTION (VendorDefined)
    0x09, 0x1f, // USAGE (FlowID)
    0x85, 0x0b, // REPORT_ID (11)
    0x75, 0x08, // REPORT_SIZE (8)
    0x95, 0x01, // REPORT_COUNT (1)
    0x65, 0x00, // UNIT (None)
    0x55, 0x00, // UNIT_EXPONENT (0)
    0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0x09, 0x40, // USAGE (ConfigVoltage)
    0x85, 0x12, // REPORT_ID (18)
    0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
    0x55, 0x07, // UNIT_EXPONENT (7)

```

```

0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x42, // USAGE (ConfigFrequency)
0x85, 0x0d, // REPORT_ID (13)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x43, // USAGE (ConfigApparentPower)
0x75, 0x10, // REPORT_SIZE (16)
0x26, 0xff, 0x7f, // LOGICAL_MAXIMUM (32767)
0x66, 0x21, 0xd1, // UNIT (SI Lin:Power)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0x09, 0x24, // USAGE (PowerSummary)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x25, // USAGE (PowerSummaryID)
0x09, 0x1f, // USAGE (FlowID)
0x85, 0x0b, // REPORT_ID (11)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0x2c, // USAGE (CapacityMode)
0x85, 0x0c, // REPORT_ID (12)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x29, // USAGE (RemainingCapacityLimit)
0x09, 0x8d, // USAGE (CapacityGranularity1)
0x95, 0x02, // REPORT_COUNT (2)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x89, // USAGE (iDeviceChemistry)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x85, 0x10, // REPORT_ID (16)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0xfd, // USAGE (Undefined)
0x09, 0xfe, // USAGE (Undefined)
0x09, 0xff, // USAGE (Undefined)
0x95, 0x03, // REPORT_COUNT (3)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x09, 0xf0, // USAGE (iModel)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x35, // USAGE (PercentLoad)
0x85, 0x0e, // REPORT_ID (14)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0x83, // USAGE (DesignCapacity)
0x09, 0x67, // USAGE (FullChargeCapacity)
0x85, 0x0c, // REPORT_ID (12)
0x95, 0x02, // REPORT_COUNT (2)
0x75, 0x08, // REPORT_SIZE (8)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)

```

```

0x09, 0x66, // USAGE (RemainingCapacity)
0x85, 0x16, // REPORT_ID (22)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x66, // USAGE (RemainingCapacity)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x68, // USAGE (RunTimeToEmpty)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0x75, 0x10, // REPORT_SIZE (16)
0x26, 0x08, 0x07, // LOGICAL_MAXIMUM (1800)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x68, // USAGE (RunTimeToEmpty)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x09, 0x73, // USAGE (Undefined)
0x85, 0x01, // REPORT_ID (1)
0x95, 0x01, // REPORT_COUNT (1)
0x75, 0x01, // REPORT_SIZE (1)
0x65, 0x00, // UNIT (None)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x45, 0x00, // PHYSICAL_MAXIMUM (0)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x73, // USAGE (Undefined)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x75, 0x07, // REPORT_SIZE (7)
0x81, 0x03, // INPUT (Cnst,Var,Abs)
0x09, 0x00, // USAGE (Undefined)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0xd0, // USAGE (ACPresent)
0x09, 0x44, // USAGE (Charging)
0x09, 0x45, // USAGE (Discharging)
0x09, 0x42, // USAGE (BelowRemainingCapacityLimit)
0x09, 0x4b, // USAGE (NeedReplacement)
0x0b, 0x61, 0x00, 0x84, 0x00, // USAGE (Power Device:Good)
0x0b, 0x69, 0x00, 0x84, 0x00, // USAGE (Power Device:ShutdownImminent)
0x0b, 0x65, 0x00, 0x84, 0x00, // USAGE (Power Device:Overload)
0x0b, 0x62, 0x00, 0x84, 0x00, // USAGE (Power Device:InternalFailure)
0x85, 0x02, // REPORT_ID (2)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x09, // REPORT_COUNT (9)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x75, 0x07, // REPORT_SIZE (7)
0x95, 0x01, // REPORT_COUNT (1)
0x81, 0x03, // INPUT (Cnst,Var,Abs)
0x09, 0xd0, // USAGE (ACPresent)
0x09, 0x44, // USAGE (Charging)
0x09, 0x45, // USAGE (Discharging)
0x09, 0x42, // USAGE (BelowRemainingCapacityLimit)
0x09, 0x4b, // USAGE (NeedReplacement)
0x0b, 0x61, 0x00, 0x84, 0x00, // USAGE (Power Device:Good)
0x0b, 0x69, 0x00, 0x84, 0x00, // USAGE (Power Device:ShutdownImminent)
0x0b, 0x65, 0x00, 0x84, 0x00, // USAGE (Power Device:Overload)
0x0b, 0x62, 0x00, 0x84, 0x00, // USAGE (Power Device:InternalFailure)
0x95, 0x09, // REPORT_COUNT (9)
0x75, 0x01, // REPORT_SIZE (1)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x95, 0x01, // REPORT_COUNT (1)

```

```

0x75, 0x07, // REPORT_SIZE (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x57, // USAGE (DelayBeforeShutdown)
0x85, 0x0f, // REPORT_ID (15)
0x75, 0x18, // REPORT_SIZE (24)
0x95, 0x01, // REPORT_COUNT (1)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0x15, 0xff, // LOGICAL_MINIMUM (-1)
0x27, 0xfe, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65534)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x56, // USAGE (DelayBeforeStartup)
0x85, 0x11, // REPORT_ID (17)
0x55, 0x01, // UNIT_EXPONENT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0xc0, // END_COLLECTION
0x09, 0x18, // USAGE (OutletSystem)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x19, // USAGE (OutletSystemID)
0x85, 0x0b, // REPORT_ID (11)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x20, // USAGE (Outlet)
0xa1, 0x81, // COLLECTION (VendorDefined)
0x09, 0x21, // USAGE (OutletID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x09, 0x6c, // USAGE (Switchable)
0x85, 0x0c, // REPORT_ID (12)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x20, // USAGE (Outlet)
0xa1, 0x82, // COLLECTION (VendorDefined)
0x09, 0x21, // USAGE (OutletID)
0x85, 0x0b, // REPORT_ID (11)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x1f, // USAGE (FlowID)
0x85, 0x0d, // REPORT_ID (13)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x09, 0x6c, // USAGE (Switchable)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0x85, 0x03, // REPORT_ID (3)
0x75, 0x01, // REPORT_SIZE (1)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x75, 0x07, // REPORT_SIZE (7)

```



```
0x81, 0x03, // INPUT (Cnst,Var,Abs)
0x09, 0x00, // USAGE (Undefined)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x0b, 0x29, 0x00, 0x85, 0x00, // USAGE (Battery
System:RemainingCapacityLimit)
0x85, 0x14, // REPORT_ID (20)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x65, 0x00, // UNIT (None)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0xc0 // END_COLLECTION
};
```

5. Pulsar Evolution 500/800/1100 Range

Pulsar Evolution is intended for networking equipment, rack-optimized servers, traditional rack and tower servers and network storage systems. (Line Interactive, 2 Switchable Outlets, USB and RS232 ports)

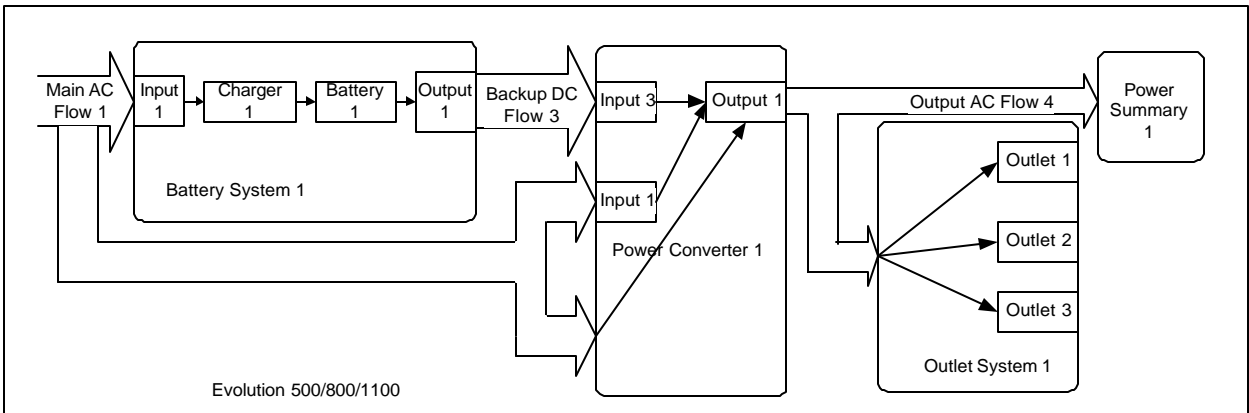


Figure 4: Pulsar Evolution 500/800/1100 UPS

5.1 The Evolution 500/800/1100 Collection tree

Collection UPS

Collection PowerSummary

Collection BatterySystem

Collection Input

Collection Battery

Collection Charger

Collection Output

Collection Flow (1:Main AC)

Collection Flow (3:Backup DC)

Collection Flow (4:AC Output)

Collection PowerConverter

Collection Input (1)

Collection Input (3)

Collection Output

Collection OutletSystem

Collection Outlet (1:Non Switchable)

Collection Outlet (2:Switchable)

Collection Outlet (3:Switchable)

5.2 The Evolution 500/800/1100 HID report descriptor

```

char ReportDescriptor[1300] = {
    0x05, 0x84, // USAGE_PAGE (Power Device)
    0x09, 0x04, // USAGE (UPS)
    0xa1, 0x00, // COLLECTION (Physical)
    0x09, 0x24, // USAGE (PowerSummary)
    0xa1, 0x00, // COLLECTION (Physical)
    0x09, 0x25, // USAGE (PowerSummaryID)
    0x95, 0x01, // REPORT_COUNT (1)
    0x85, 0x26, // REPORT_ID (38)
    0x75, 0x08, // REPORT_SIZE (8)
    0x15, 0x00, // LOGICAL_MINIMUM (0)
    0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
    0x65, 0x00, // UNIT (None)
    0x55, 0x00, // UNIT_EXPONENT (0)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0x09, 0x1f, // USAGE (FlowID)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0x09, 0x5a, // USAGE (Undefined)
    0x85, 0x0a, // REPORT_ID (10)
    0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
    0x09, 0x5a, // USAGE (Undefined)
    0x81, 0x82, // INPUT (Data,Var,Abs,Vol)
    0x05, 0x85, // USAGE_PAGE (Battery System)
    0x09, 0x8d, // USAGE (CapacityGranularity1)
    0x85, 0x26, // REPORT_ID (38)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0x09, 0x2c, // USAGE (CapacityMode)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0x05, 0x84, // USAGE_PAGE (Power Device)
    0x09, 0x40, // USAGE (ConfigVoltage)
    0x75, 0x10, // REPORT_SIZE (16)
    0x85, 0x27, // REPORT_ID (39)
    0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
    0x55, 0x07, // UNIT_EXPONENT (7)
    0x26, 0xff, 0x7f, // LOGICAL_MAXIMUM (32767)
    0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
    0x09, 0x57, // USAGE (DelayBeforeShutdown)
    0x75, 0x18, // REPORT_SIZE (24)
    0x85, 0x28, // REPORT_ID (40)
    0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
    0x55, 0x00, // UNIT_EXPONENT (0)
    0x15, 0xff, // LOGICAL_MINIMUM (-1)
    0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
    0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
    0x09, 0x56, // USAGE (DelayBeforeStartup)
    0x85, 0x29, // REPORT_ID (41)
    0x55, 0x01, // UNIT_EXPONENT (1)
    0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
    0x05, 0x85, // USAGE_PAGE (Battery System)
    0x09, 0x83, // USAGE (DesignCapacity)
    0x75, 0x08, // REPORT_SIZE (8)
    0x85, 0x26, // REPORT_ID (38)
    0x65, 0x00, // UNIT (None)
    0x55, 0x00, // UNIT_EXPONENT (0)
    0x15, 0x00, // LOGICAL_MINIMUM (0)
    0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
    0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
    0x09, 0x89, // USAGE (iDeviceChemistry)
    0x85, 0x2a, // REPORT_ID (42)
    0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)

```

```

0x09, 0x8f, // USAGE (Undefined)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x8b, // USAGE (Rechargeable)
0x85, 0x26, // REPORT_ID (38)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x66, // USAGE (RemainingCapacity)
0x85, 0x09, // REPORT_ID (9)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x66, // USAGE (RemainingCapacity)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x29, // USAGE (RemainingCapacityLimit)
0x85, 0x2b, // REPORT_ID (43)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x68, // USAGE (RunTimeToEmpty)
0x75, 0x10, // REPORT_SIZE (16)
0x85, 0x09, // REPORT_ID (9)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x68, // USAGE (RunTimeToEmpty)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x09, 0x4d, // USAGE (0x4d)
0x75, 0x08, // REPORT_SIZE (8)
0x65, 0x00, // UNIT (None)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x85, 0x2c, // REPORT_ID (44)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x5f, // USAGE (0x5f)
0x85, 0x2d, // REPORT_ID (45)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x48, // USAGE (0x48)
0x85, 0x2e, // REPORT_ID (46)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0xf0, // USAGE (iModel)
0x85, 0x2a, // REPORT_ID (42)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0xfd, // USAGE (Undefined)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0xfe, // USAGE (Undefined)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0xff, // USAGE (Undefined)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x35, // USAGE (PercentLoad)
0x85, 0x2b, // REPORT_ID (43)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x30, // USAGE (Voltage)
0x75, 0x10, // REPORT_SIZE (16)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0x26, 0xff, 0x7f, // LOGICAL_MAXIMUM (32767)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x61, // USAGE (Good)
0x75, 0x08, // REPORT_SIZE (8)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x85, 0x06, // REPORT_ID (6)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x61, // USAGE (Good)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)

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0x09, 0x62, // USAGE (InternalFailure)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x62, // USAGE (InternalFailure)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x65, // USAGE (Overload)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x65, // USAGE (Overload)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x67, // USAGE (OverTemperature)
0x85, 0x0b, // REPORT_ID (11)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x67, // USAGE (OverTemperature)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x73, // USAGE (Undefined)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x73, // USAGE (Undefined)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x69, // USAGE (ShutdownImminent)
0x85, 0x06, // REPORT_ID (6)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x69, // USAGE (ShutdownImminent)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0xd0, // USAGE (ACPresent)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0xd0, // USAGE (ACPresent)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x42, // USAGE (BelowRemainingCapacityLimit)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x42, // USAGE (BelowRemainingCapacityLimit)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x44, // USAGE (Charging)
0x85, 0x0b, // REPORT_ID (11)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x44, // USAGE (Charging)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x45, // USAGE (Discharging)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x45, // USAGE (Discharging)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x4b, // USAGE (NeedReplacement)
0x85, 0x0b, // REPORT_ID (11)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x4b, // USAGE (NeedReplacement)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x6c, // USAGE (Switchable)
0x85, 0x3a, // REPORT_ID (58)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x10, // USAGE (BatterySystem)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x11, // USAGE (BatterySystemID)
0x85, 0x11, // REPORT_ID (17)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x12, // USAGE (Battery)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x13, // USAGE (BatteryID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0x6a, // USAGE (AverageTimeToFull)
0x75, 0x10, // REPORT_SIZE (16)

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0x27, 0xff, 0xff, 0x00, 0x00, //	LOGICAL_MAXIMUM (65535)
0x66, 0x01, 0x10, //	UNIT (SI Lin:Time)
0xb1, 0x83, //	FEATURE (Cnst,Var,Abs,Vol)
0x06, 0xff, 0xff, //	USAGE_PAGE (Vendor defined MGE 1)
0x09, 0x90, //	USAGE (0c90)
0x75, 0x08, //	REPORT_SIZE (8)
0x26, 0xff, 0x00, //	LOGICAL_MAXIMUM (255)
0x65, 0x00, //	UNIT (None)
0xb1, 0x83, //	FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x49, //	USAGE (0x49)
0x25, 0x01, //	LOGICAL_MAXIMUM (1)
0x85, 0x3c, //	REPORT_ID (60)
0xb1, 0x82, //	FEATURE (Data,Var,Abs,Vol)
0x05, 0x84, //	USAGE_PAGE (Power Device)
0x09, 0x58, //	USAGE (Test)
0x26, 0xff, 0x00, //	LOGICAL_MAXIMUM (255)
0x85, 0x12, //	REPORT_ID (18)
0xb1, 0x82, //	FEATURE (Data,Var,Abs,Vol)
0x06, 0xff, 0xff, //	USAGE_PAGE (Vendor defined MGE 1)
0x09, 0x45, //	USAGE (0x45)
0x75, 0x10, //	REPORT_SIZE (16)
0x85, 0x3d, //	REPORT_ID (61)
0x27, 0xff, 0xff, 0x00, 0x00, //	LOGICAL_MAXIMUM (65535)
0x66, 0x01, 0x10, //	UNIT (SI Lin:Time)
0x55, 0x02, //	UNIT_EXPONENT (2)
0xb1, 0x82, //	FEATURE (Data,Var,Abs,Vol)
0x05, 0x84, //	USAGE_PAGE (Power Device)
0x09, 0x02, //	USAGE (PresentStatus)
0xa1, 0x00, //	COLLECTION (Physical)
0x09, 0x61, //	USAGE (Good)
0x75, 0x08, //	REPORT_SIZE (8)
0x85, 0x01, //	REPORT_ID (1)
0x65, 0x00, //	UNIT (None)
0x55, 0x00, //	UNIT_EXPONENT (0)
0x25, 0x01, //	LOGICAL_MAXIMUM (1)
0xb1, 0x83, //	FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x61, //	USAGE (Good)
0x81, 0x83, //	INPUT (Cnst,Var,Abs,Vol)
0x09, 0x60, //	USAGE (Present)
0xb1, 0x83, //	FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x60, //	USAGE (Present)
0x81, 0x83, //	INPUT (Cnst,Var,Abs,Vol)
0xc0, //	END_COLLECTION
0xc0, //	END_COLLECTION
0x09, 0x14, //	USAGE (Charger)
0xa1, 0x00, //	COLLECTION (Physical)
0x09, 0x15, //	USAGE (ChargerID)
0x85, 0x11, //	REPORT_ID (17)
0x26, 0xff, 0x00, //	LOGICAL_MAXIMUM (255)
0xb1, 0x03, //	FEATURE (Cnst,Var,Abs)
0x09, 0x02, //	USAGE (PresentStatus)
0xa1, 0x00, //	COLLECTION (Physical)
0x09, 0x61, //	USAGE (Good)
0x85, 0x01, //	REPORT_ID (1)
0x25, 0x01, //	LOGICAL_MAXIMUM (1)
0xb1, 0x83, //	FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x61, //	USAGE (Good)
0x81, 0x83, //	INPUT (Cnst,Var,Abs,Vol)
0x09, 0x62, //	USAGE (InternalFailure)
0xb1, 0x83, //	FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x62, //	USAGE (InternalFailure)
0x81, 0x83, //	INPUT (Cnst,Var,Abs,Vol)
0xc0, //	END_COLLECTION
0xc0, //	END_COLLECTION

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0x09, 0x1a, // USAGE (Input)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x1b, // USAGE (InputID)
0x85, 0x11, // REPORT_ID (17)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x09, 0x1c, // USAGE (Output)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x1d, // USAGE (OutputID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x1e, // USAGE (Flow)
0xa1, 0x81, // COLLECTION (VendorDefined)
0x09, 0x1f, // USAGE (FlowID)
0x85, 0x13, // REPORT_ID (19)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x42, // USAGE (ConfigFrequency)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x40, // USAGE (ConfigVoltage)
0x75, 0x10, // REPORT_SIZE (16)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0x09, 0x1e, // USAGE (Flow)
0xa1, 0x83, // COLLECTION (VendorDefined)
0x09, 0x1f, // USAGE (FlowID)
0x85, 0x13, // REPORT_ID (19)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x09, 0x1e, // USAGE (Flow)
0xa1, 0x84, // COLLECTION (VendorDefined)
0x09, 0x1f, // USAGE (FlowID)
0x85, 0x14, // REPORT_ID (20)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x42, // USAGE (ConfigFrequency)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x44, // USAGE (ConfigActivePower)
0x75, 0x10, // REPORT_SIZE (16)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x21, 0xd1, // UNIT (SI Lin:Power)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x43, // USAGE (ConfigApparentPower)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x41, // USAGE (ConfigCurrent)
0x67, 0x01, 0x00, 0x10, 0x00, // UNIT (SI Lin:Amps)
0x55, 0x0e, // UNIT_EXPONENT (-2)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x40, // USAGE (ConfigVoltage)

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0x85, 0x15, // REPORT_ID (21)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0xc0, // END_COLLECTION
0x09, 0x16, // USAGE (PowerConverter)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x17, // USAGE (PowerConverterID)
0x85, 0x17, // REPORT_ID (23)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x09, 0x41, // USAGE (0x41)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x1a, // USAGE (Input)
0xa1, 0x81, // COLLECTION (VendorDefined)
0x09, 0x1b, // USAGE (InputID)
0x85, 0x19, // REPORT_ID (25)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x32, // USAGE (Frequency)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x30, // USAGE (Voltage)
0x75, 0x10, // REPORT_SIZE (16)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x09, 0x43, // USAGE (0x43)
0x85, 0x18, // REPORT_ID (24)
0x75, 0x08, // REPORT_SIZE (8)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x6e, // USAGE (Boost)
0x85, 0x03, // REPORT_ID (3)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x6e, // USAGE (Boost)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x6f, // USAGE (Buck)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x6f, // USAGE (Buck)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x1a, // USAGE (Input)
0xa1, 0x83, // COLLECTION (VendorDefined)
0x09, 0x1b, // USAGE (InputID)
0x85, 0x1a, // REPORT_ID (26)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)

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0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x09, 0x46, // USAGE (0x46)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x85, 0x3b, // REPORT_ID (59)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x47, // USAGE (0x47)
0x85, 0x1b, // REPORT_ID (27)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x61, // USAGE (Good)
0x85, 0x04, // REPORT_ID (4)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x61, // USAGE (Good)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x6d, // USAGE (Used)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x6d, // USAGE (Used)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x1c, // USAGE (Output)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x1d, // USAGE (OutputID)
0x85, 0x1c, // REPORT_ID (28)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x33, // USAGE (ApparentPower)
0x75, 0x10, // REPORT_SIZE (16)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x21, 0xd1, // UNIT (SI Lin:Power)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x31, // USAGE (Current)
0x67, 0x01, 0x00, 0x10, 0x00, // UNIT (SI Lin:Amps)
0x55, 0x0e, // UNIT_EXPONENT (-2)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x30, // USAGE (Voltage)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x32, // USAGE (Frequency)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x09, 0x4e, // USAGE (0x4e)
0x85, 0x1d, // REPORT_ID (29)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x4b, // USAGE (0x4b)
0x85, 0x1e, // REPORT_ID (30)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x44, // USAGE (0x44)
0x85, 0x1f, // REPORT_ID (31)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x53, // USAGE (0x53)
0x85, 0x20, // REPORT_ID (32)

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0x75, 0x10, // REPORT_SIZE (16)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x50, // USAGE (0x50)
0x85, 0x22, // REPORT_ID (34)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x54, // USAGE (HighVoltageTransfer)
0x85, 0x21, // REPORT_ID (33)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x53, // USAGE (LowVoltageTransfer)
0x85, 0x23, // REPORT_ID (35)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x09, 0x4c, // USAGE (0x4c)
0x85, 0x24, // REPORT_ID (36)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x65, // USAGE (Overload)
0x85, 0x05, // REPORT_ID (5)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x65, // USAGE (Overload)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x09, 0x4a, // USAGE (0x4a)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x4a, // USAGE (0x4a)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x18, // USAGE (OutletSystem)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x19, // USAGE (OutletSystemID)
0x85, 0x16, // REPORT_ID (22)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x20, // USAGE (Outlet)
0xa1, 0x81, // COLLECTION (VendorDefined)
0x09, 0x21, // USAGE (OutletID)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x6c, // USAGE (Switchable)
0x85, 0x02, // REPORT_ID (2)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x20, // USAGE (Outlet)
0xa1, 0x82, // COLLECTION (VendorDefined)
0x09, 0x21, // USAGE (OutletID)

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0x85, 0x31, // REPORT_ID (49)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x57, // USAGE (DelayBeforeShutdown)
0x85, 0x2f, // REPORT_ID (47)
0x75, 0x18, // REPORT_SIZE (24)
0x15, 0xff, // LOGICAL_MINIMUM (-1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x56, // USAGE (DelayBeforeStartup)
0x85, 0x30, // REPORT_ID (48)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x09, 0x5d, // USAGE (0x5d)
0x85, 0x33, // REPORT_ID (51)
0x75, 0x10, // REPORT_SIZE (16)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x5e, // USAGE (0x5e)
0x85, 0x34, // REPORT_ID (52)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0x29, // USAGE (RemainingCapacityLimit)
0x85, 0x32, // REPORT_ID (50)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x6c, // USAGE (Switchable)
0x85, 0x07, // REPORT_ID (7)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x6c, // USAGE (Switchable)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x20, // USAGE (Outlet)
0xa1, 0x83, // COLLECTION (VendorDefined)
0x09, 0x21, // USAGE (OutletID)
0x85, 0x31, // REPORT_ID (49)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x57, // USAGE (DelayBeforeShutdown)
0x85, 0x35, // REPORT_ID (53)
0x75, 0x18, // REPORT_SIZE (24)
0x15, 0xff, // LOGICAL_MINIMUM (-1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)

```

```
0x09, 0x56, // USAGE (DelayBeforeStartup)
0x85, 0x36, // REPORT_ID (54)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x09, 0x5d, // USAGE (0x5d)
0x85, 0x38, // REPORT_ID (56)
0x75, 0x10, // REPORT_SIZE (16)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x5e, // USAGE (0x5e)
0x85, 0x39, // REPORT_ID (57)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0x29, // USAGE (RemainingCapacityLimit)
0x85, 0x37, // REPORT_ID (55)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x6c, // USAGE (Switchable)
0x85, 0x08, // REPORT_ID (8)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x6c, // USAGE (Switchable)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
```

```
};
```

6. Pulsar Evolution 1500/2200/3000 Range

Pulsar Evolution is intended for networking equipment, rack-optimized servers, traditional rack and tower servers and network storage systems. (Line Interactive, 1U rack only @ 1,500VA, 2 Switchable Outlets, USB and RS232 ports)

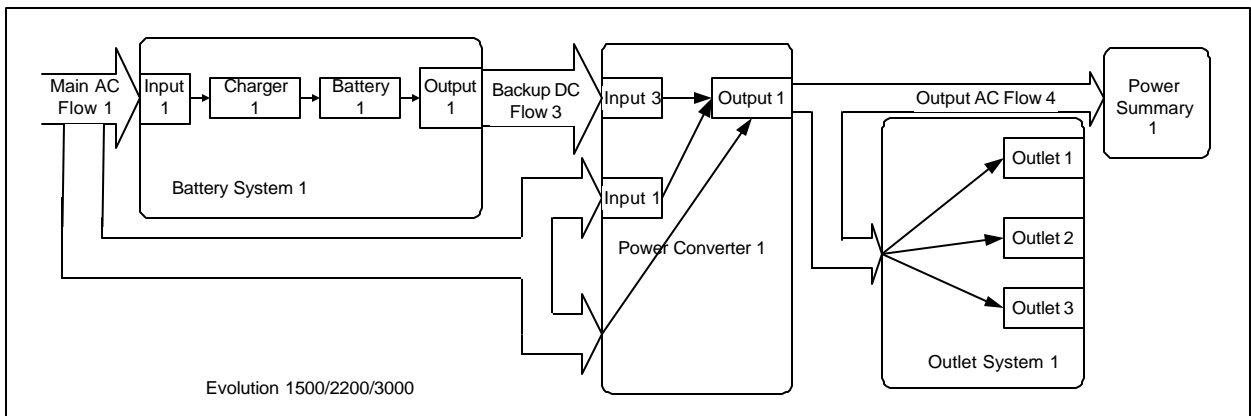


Figure 5: Pulsar Evolution 500/800/1100 UPS

6.1 The Evolution 1500/2200/3000 Collection tree

Collection UPS

Collection BatterySystem

Collection Battery

Collection Charger

Collection Input

Collection Output

Collection Flow (1:Main AC)

Collection Flow (3:Backup DC)

Collection Flow (4:AC Output)

Collection PowerConverter

Collection Input (1)

Collection Input (3)

Collection Output

Collection OutletSystem

Collection Outlet (1:Non Switchable)

Collection Outlet (2:Switchable)

Collection Outlet (3:Switchable)

Collection PowerSummary

6.2 The Evolution 1500/2200/3000 HID report descriptor

```

char ReportDescriptor[1620] = {
    0x05, 0x84,          // USAGE_PAGE (Power Device)
    0x09, 0x04,          // USAGE (UPS)
    0xa1, 0x01,          // COLLECTION (Application)
    0x09, 0x10,          // USAGE (BatterySystem)
    0xa1, 0x00,          // COLLECTION (Physical)
    0x85, 0x01,          // REPORT_ID (1)
    0x09, 0x11,          // USAGE (BatterySystemID)
    0x75, 0x08,          // REPORT_SIZE (8)
    0x95, 0x01,          // REPORT_COUNT (1)
    0x15, 0x00,          // LOGICAL_MINIMUM (0)
    0x26, 0xff, 0x00,    // LOGICAL_MAXIMUM (255)
    0x65, 0x00,          // UNIT (None)
    0xb1, 0x03,          // FEATURE (Cnst,Var,Abs)
    0x09, 0x12,          // USAGE (Battery)
    0xa1, 0x00,          // COLLECTION (Physical)
    0x09, 0x13,          // USAGE (BatteryID)
    0x95, 0x01,          // REPORT_COUNT (1)
    0xb1, 0x03,          // FEATURE (Cnst,Var,Abs)
    0x85, 0x10,          // REPORT_ID (16)
    0x0b, 0x6a, 0x00, 0x85, 0x00, // USAGE (Battery System:AverageTimeToFull)
    0x75, 0x10,          // REPORT_SIZE (16)
    0x95, 0x01,          // REPORT_COUNT (1)
    0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
    0x66, 0x01, 0x10,    // UNIT (SI Lin:Time)
    0xb1, 0x83,          // FEATURE (Cnst,Var,Abs,Vol)
    0x85, 0x14,          // REPORT_ID (20)
    0x0b, 0x90, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x90)
    0x75, 0x08,          // REPORT_SIZE (8)
    0x95, 0x01,          // REPORT_COUNT (1)
    0x26, 0xff, 0x00,    // LOGICAL_MAXIMUM (255)
    0x65, 0x00,          // UNIT (None)
    0xb1, 0x82,          // FEATURE (Data,Var,Abs,Vol)
    0x09, 0x02,          // USAGE (PresentStatus)
    0xa1, 0x02,          // COLLECTION (Logical)
    0x85, 0x0b,          // REPORT_ID (11)
    0x09, 0x61,          // USAGE (Good)
    0x09, 0x60,          // USAGE (Present)
    0x75, 0x01,          // REPORT_SIZE (1)
    0x95, 0x02,          // REPORT_COUNT (2)
    0x25, 0x01,          // LOGICAL_MAXIMUM (1)
    0x81, 0x83,          // INPUT (Cnst,Var,Abs,Vol)
    0x09, 0x61,          // USAGE (Good)
    0x09, 0x60,          // USAGE (Present)
    0x95, 0x02,          // REPORT_COUNT (2)
    0xb1, 0x83,          // FEATURE (Cnst,Var,Abs,Vol)
    0xc0,                // END_COLLECTION
    0x85, 0x15,          // REPORT_ID (21)
    0x0b, 0x49, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x49)
    0x95, 0x01,          // REPORT_COUNT (1)
    0xb1, 0x82,          // FEATURE (Data,Var,Abs,Vol)
    0x95, 0x07,          // REPORT_COUNT (7)
    0xb1, 0x03,          // FEATURE (Cnst,Var,Abs)
    0x85, 0x16,          // REPORT_ID (22)
    0x09, 0x58,          // USAGE (Test)
    0x75, 0x08,          // REPORT_SIZE (8)
    0x95, 0x01,          // REPORT_COUNT (1)
    0x26, 0xff, 0x00,    // LOGICAL_MAXIMUM (255)
    0xb1, 0x82,          // FEATURE (Data,Var,Abs,Vol)
    0x85, 0x17,          // REPORT_ID (23)
    0x0b, 0x45, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x45)
    0x75, 0x18,          // REPORT_SIZE (24)

```



```

0x95, 0x01, // REPORT_COUNT (1)
0x27, 0xff, 0xff, 0xff, 0x00, // LOGICAL_MAXIMUM (16777215)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0xc0, // END_COLLECTION
0x09, 0x14, // USAGE (Charger)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x01, // REPORT_ID (1)
0x09, 0x15, // USAGE (ChargerID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x0b, // REPORT_ID (11)
0x09, 0x61, // USAGE (Good)
0x09, 0x62, // USAGE (InternalFailure)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x02, // REPORT_COUNT (2)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x61, // USAGE (Good)
0x09, 0x62, // USAGE (InternalFailure)
0x95, 0x02, // REPORT_COUNT (2)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x1a, // USAGE (Input)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x01, // REPORT_ID (1)
0x09, 0x1f, // USAGE (FlowID)
0x09, 0x1b, // USAGE (InputID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x09, 0x1c, // USAGE (Output)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x1f, // USAGE (FlowID)
0x09, 0x1d, // USAGE (OutputID)
0x95, 0x02, // REPORT_COUNT (2)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x1e, // USAGE (Flow)
0xa1, 0x81, // COLLECTION (VendorDefined)
0x85, 0x02, // REPORT_ID (2)
0x09, 0x1f, // USAGE (FlowID)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x18, // REPORT_ID (24)
0x09, 0x42, // USAGE (ConfigFrequency)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x19, // REPORT_ID (25)
0x09, 0x40, // USAGE (ConfigVoltage)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)

```

```

0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0xc0, // END_COLLECTION
0x09, 0x1e, // USAGE (Flow)
0xa1, 0x83, // COLLECTION (VendorDefined)
0x85, 0x02, // REPORT_ID (2)
0x09, 0x1f, // USAGE (FlowID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x09, 0x1e, // USAGE (Flow)
0xa1, 0x84, // COLLECTION (VendorDefined)
0x09, 0x1f, // USAGE (FlowID)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x1a, // REPORT_ID (26)
0x09, 0x44, // USAGE (ConfigActivePower)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x21, 0xd1, // UNIT (SI Lin:Power)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x1b, // REPORT_ID (27)
0x09, 0x43, // USAGE (ConfigApparentPower)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x1c, // REPORT_ID (28)
0x09, 0x41, // USAGE (ConfigCurrent)
0x95, 0x01, // REPORT_COUNT (1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x67, 0x01, 0x00, 0x10, 0x00, // UNIT (SI Lin:Amps)
0x55, 0x0e, // UNIT_EXPONENT (-2)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x1d, // REPORT_ID (29)
0x09, 0x42, // USAGE (ConfigFrequency)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x1e, // REPORT_ID (30)
0x09, 0x40, // USAGE (ConfigVoltage)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0xc0, // END_COLLECTION
0x09, 0x18, // USAGE (OutletSystem)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x03, // REPORT_ID (3)
0x09, 0x19, // USAGE (OutletSystemID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)

```

```

0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x20, // USAGE (Outlet)
0xa1, 0x81, // COLLECTION (VendorDefined)
0x09, 0x1f, // USAGE (FlowID)
0x09, 0x21, // USAGE (OutletID)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x04, // REPORT_ID (4)
0x09, 0x6c, // USAGE (Switchable)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x95, 0x07, // REPORT_COUNT (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x20, // USAGE (Outlet)
0xa1, 0x82, // COLLECTION (VendorDefined)
0x85, 0x03, // REPORT_ID (3)
0x09, 0x1f, // USAGE (FlowID)
0x09, 0x21, // USAGE (OutletID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x1f, // REPORT_ID (31)
0x0b, 0x29, 0x00, 0x85, 0x00, // USAGE (Battery
System:RemainingCapacityLimit)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x20, // REPORT_ID (32)
0x09, 0x57, // USAGE (DelayBeforeShutdown)
0x75, 0x18, // REPORT_SIZE (24)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0xff, // LOGICAL_MINIMUM (-1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x21, // REPORT_ID (33)
0x09, 0x56, // USAGE (DelayBeforeStartup)
0x95, 0x01, // REPORT_COUNT (1)
0x55, 0x01, // UNIT_EXPONENT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x22, // REPORT_ID (34)
0x0b, 0x5d, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x5d)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x23, // REPORT_ID (35)
0x0b, 0x5e, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x5e)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x02, // USAGE (PresentStatus)

```

```

0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x04, // REPORT_ID (4)
0x09, 0x6c, // USAGE (Switchable)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x95, 0x07, // REPORT_COUNT (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x0b, // REPORT_ID (11)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0x95, 0x01, // REPORT_COUNT (1)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x20, // USAGE (Outlet)
0xa1, 0x83, // COLLECTION (VendorDefined)
0x85, 0x03, // REPORT_ID (3)
0x09, 0x1f, // USAGE (FlowID)
0x09, 0x21, // USAGE (OutletID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x24, // REPORT_ID (36)
0x0b, 0x29, 0x00, 0x85, 0x00, // USAGE (Battery
System:RemainingCapacityLimit)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x25, // REPORT_ID (37)
0x09, 0x57, // USAGE (DelayBeforeShutdown)
0x75, 0x18, // REPORT_SIZE (24)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0xff, // LOGICAL_MINIMUM (-1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x26, // REPORT_ID (38)
0x09, 0x56, // USAGE (DelayBeforeStartup)
0x95, 0x01, // REPORT_COUNT (1)
0x55, 0x01, // UNIT_EXPONENT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x27, // REPORT_ID (39)
0x0b, 0x5d, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x5d)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x28, // REPORT_ID (40)
0x0b, 0x5e, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x5e)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x04, // REPORT_ID (4)
0x09, 0x6c, // USAGE (Switchable)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x01, // REPORT_COUNT (1)

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0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x95, 0x07, // REPORT_COUNT (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x0b, // REPORT_ID (11)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0x95, 0x01, // REPORT_COUNT (1)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x16, // USAGE (PowerConverter)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x04, // REPORT_ID (4)
0x0b, 0x41, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x41)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x05, // REPORT_ID (5)
0x09, 0x17, // USAGE (PowerConverterID)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x1a, // USAGE (Input)
0xa1, 0x81, // COLLECTION (VendorDefined)
0x85, 0x05, // REPORT_ID (5)
0x09, 0x1f, // USAGE (FlowID)
0x09, 0x1b, // USAGE (InputID)
0x95, 0x02, // REPORT_COUNT (2)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x29, // REPORT_ID (41)
0x0b, 0x43, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x43)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x95, 0x07, // REPORT_COUNT (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x11, // REPORT_ID (17)
0x09, 0x30, // USAGE (Voltage)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x32, // USAGE (Frequency)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x0b, // REPORT_ID (11)
0x09, 0x6e, // USAGE (Boost)
0x09, 0x6f, // USAGE (Buck)
0x09, 0x61, // USAGE (Good)
0x09, 0x62, // USAGE (InternalFailure)

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0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x04, // REPORT_COUNT (4)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x6e, // USAGE (Boost)
0x09, 0x6f, // USAGE (Buck)
0x09, 0x61, // USAGE (Good)
0x09, 0x62, // USAGE (InternalFailure)
0x95, 0x04, // REPORT_COUNT (4)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x1a, // USAGE (Input)
0xa1, 0x83, // COLLECTION (VendorDefined)
0x85, 0x05, // REPORT_ID (5)
0x09, 0x1f, // USAGE (FlowID)
0x09, 0x1b, // USAGE (InputID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x2a, // REPORT_ID (42)
0x0b, 0x46, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x46)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x95, 0x07, // REPORT_COUNT (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x2b, // REPORT_ID (43)
0x0b, 0x47, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x47)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x95, 0x07, // REPORT_COUNT (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x0b, // REPORT_ID (11)
0x09, 0x61, // USAGE (Good)
0x09, 0x6d, // USAGE (Used)
0x95, 0x02, // REPORT_COUNT (2)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x61, // USAGE (Good)
0x09, 0x6d, // USAGE (Used)
0x95, 0x02, // REPORT_COUNT (2)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x1c, // USAGE (Output)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x05, // REPORT_ID (5)
0x09, 0x1f, // USAGE (FlowID)
0x09, 0x1d, // USAGE (OutputID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x12, // REPORT_ID (18)
0x09, 0x33, // USAGE (ApparentPower)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x21, 0xd1, // UNIT (SI Lin:Power)

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0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x31, // USAGE (Current)
0x95, 0x01, // REPORT_COUNT (1)
0x67, 0x01, 0x00, 0x10, 0x00, // UNIT (SI Lin:Amps)
0x55, 0x0e, // UNIT_EXPONENT (-2)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x32, // USAGE (Frequency)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x30, // USAGE (Voltage)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x0b, // REPORT_ID (11)
0x09, 0x61, // USAGE (Good)
0x09, 0x65, // USAGE (Overload)
0x0b, 0x4a, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x4a)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x03, // REPORT_COUNT (3)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x61, // USAGE (Good)
0x09, 0x65, // USAGE (Overload)
0x0b, 0x4a, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x4a)
0x95, 0x03, // REPORT_COUNT (3)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0x85, 0x3a, // REPORT_ID (58)
0x0b, 0x4b, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x4b)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x3b, // REPORT_ID (59)
0x0b, 0x4e, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x4e)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x2d, // REPORT_ID (45)
0x0b, 0x44, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x44)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x95, 0x07, // REPORT_COUNT (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x2e, // REPORT_ID (46)
0x0b, 0x53, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x53)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)

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0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x2f, // REPORT_ID (47)
0x09, 0x54, // USAGE (HighVoltageTransfer)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x30, // REPORT_ID (48)
0x0b, 0x50, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x50)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x31, // REPORT_ID (49)
0x09, 0x53, // USAGE (LowVoltageTransfer)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x32, // REPORT_ID (50)
0x0b, 0x4c, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x4c)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x24, // USAGE (PowerSummary)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x06, // REPORT_ID (6)
0x09, 0x1f, // USAGE (FlowID)
0x09, 0x25, // USAGE (PowerSummaryID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x0b, 0x8d, 0x00, 0x85, 0x00, // USAGE (Battery System:CapacityGranularity1)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x0b, 0x2c, 0x00, 0x85, 0x00, // USAGE (Battery System:CapacityMode)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x0b, 0x83, 0x00, 0x85, 0x00, // USAGE (Battery System:DesignCapacity)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x0b, 0x8b, 0x00, 0x85, 0x00, // USAGE (Battery System:Rechargeable)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x03, // LOGICAL_MAXIMUM (3)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x07, // REPORT_ID (7)
0x0b, 0x89, 0x00, 0x85, 0x00, // USAGE (Battery System:iDeviceChemistry)
0x0b, 0xf0, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:iModel)
0x0b, 0x8f, 0x00, 0x85, 0x00, // USAGE (Battery System:Undefined)
0x09, 0xfe, // USAGE (Undefined)
0x09, 0xff, // USAGE (Undefined)
0x09, 0xfd, // USAGE (Undefined)
0x95, 0x06, // REPORT_COUNT (6)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x08, // REPORT_ID (8)
0x09, 0x40, // USAGE (ConfigVoltage)
0x95, 0x01, // REPORT_COUNT (1)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)

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0x85, 0x13, // REPORT_ID (19)
0x09, 0x35, // USAGE (PercentLoad)
0x95, 0x01, // REPORT_COUNT (1)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x0b, 0x29, 0x00, 0x85, 0x00, // USAGE (Battery
System:RemainingCapacityLimit)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x30, // USAGE (Voltage)
0x95, 0x01, // REPORT_COUNT (1)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x0c, // REPORT_ID (12)
0x0b, 0x66, 0x00, 0x85, 0x00, // USAGE (Battery System:RemainingCapacity)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x0b, 0x66, 0x00, 0x85, 0x00, // USAGE (Battery System:RemainingCapacity)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x0b, 0x68, 0x00, 0x85, 0x00, // USAGE (Battery System:RunTimeToEmpty)
0x75, 0x18, // REPORT_SIZE (24)
0x95, 0x01, // REPORT_COUNT (1)
0x27, 0xff, 0xff, 0xff, 0x00, // LOGICAL_MAXIMUM (16777215)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x0b, 0x68, 0x00, 0x85, 0x00, // USAGE (Battery System:RunTimeToEmpty)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x0b, // REPORT_ID (11)
0x0b, 0xd0, 0x00, 0x85, 0x00, // USAGE (Battery System:ACPresent)
0x0b, 0x42, 0x00, 0x85, 0x00, // USAGE (Battery
System:BelowRemainingCapacityLimit)
0x0b, 0x44, 0x00, 0x85, 0x00, // USAGE (Battery System:Charging)
0x09, 0x73, // USAGE (Undefined)
0x0b, 0x45, 0x00, 0x85, 0x00, // USAGE (Battery System:Discharging)
0x09, 0x61, // USAGE (Good)
0x09, 0x62, // USAGE (InternalFailure)
0x0b, 0x4b, 0x00, 0x85, 0x00, // USAGE (Battery System:NeedReplacement)
0x09, 0x65, // USAGE (Overload)
0x09, 0x67, // USAGE (OverTemperature)
0x09, 0x69, // USAGE (ShutdownImminent)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x0b, // REPORT_COUNT (11)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x95, 0x06, // REPORT_COUNT (6)
0x81, 0x03, // INPUT (Cnst,Var,Abs)
0x0b, 0xd0, 0x00, 0x85, 0x00, // USAGE (Battery System:ACPresent)
0x0b, 0x42, 0x00, 0x85, 0x00, // USAGE (Battery
System:BelowRemainingCapacityLimit)
0x0b, 0x44, 0x00, 0x85, 0x00, // USAGE (Battery System:Charging)
0x09, 0x73, // USAGE (Undefined)
0x0b, 0x45, 0x00, 0x85, 0x00, // USAGE (Battery System:Discharging)
0x09, 0x61, // USAGE (Good)

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0x09, 0x62, // USAGE (InternalFailure)
0x0b, 0x4b, 0x00, 0x85, 0x00, // USAGE (Battery System:NeedReplacement)
0x09, 0x65, // USAGE (Overload)
0x09, 0x67, // USAGE (OverTemperature)
0x09, 0x69, // USAGE (ShutdownImminent)
0x95, 0x0b, // REPORT_COUNT (11)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x95, 0x06, // REPORT_COUNT (6)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x33, // REPORT_ID (51)
0x09, 0x6c, // USAGE (Switchable)
0x95, 0x01, // REPORT_COUNT (1)
0x81, 0x82, // INPUT (Data,Var,Abs,Vol)
0x95, 0x07, // REPORT_COUNT (7)
0x81, 0x03, // INPUT (Cnst,Var,Abs)
0x09, 0x6c, // USAGE (Switchable)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x95, 0x07, // REPORT_COUNT (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x85, 0x34, // REPORT_ID (52)
0x09, 0x5a, // USAGE (Undefined)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x01, // LOGICAL_MINIMUM (1)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x81, 0x82, // INPUT (Data,Var,Abs,Vol)
0x09, 0x5a, // USAGE (Undefined)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x35, // REPORT_ID (53)
0x09, 0x57, // USAGE (DelayBeforeShutdown)
0x75, 0x18, // REPORT_SIZE (24)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0xff, // LOGICAL_MINIMUM (-1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x36, // REPORT_ID (54)
0x09, 0x56, // USAGE (DelayBeforeStartup)
0x95, 0x01, // REPORT_COUNT (1)
0x55, 0x01, // UNIT_EXPONENT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x37, // REPORT_ID (55)
0x0b, 0x4d, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x4d)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0x55, 0x00, // UNIT_EXPONENT (0)
0x65, 0x00, // UNIT (None)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x38, // REPORT_ID (56)
0x0b, 0x5f, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x5f)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x39, // REPORT_ID (57)
0x0b, 0x48, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x48)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x95, 0x07, // REPORT_COUNT (7)

```

```
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0xc0 // END_COLLECTION
};
```

7. Pulsar Extreme C Range

Intended for Unix Server and storage protection users, **Pulsar Extreme C** protects information systems, industry, telecommunication and medical configurations (True On Line, Hot Swappable batteries, 2 Switchable Outlets, USB and RS232 ports)

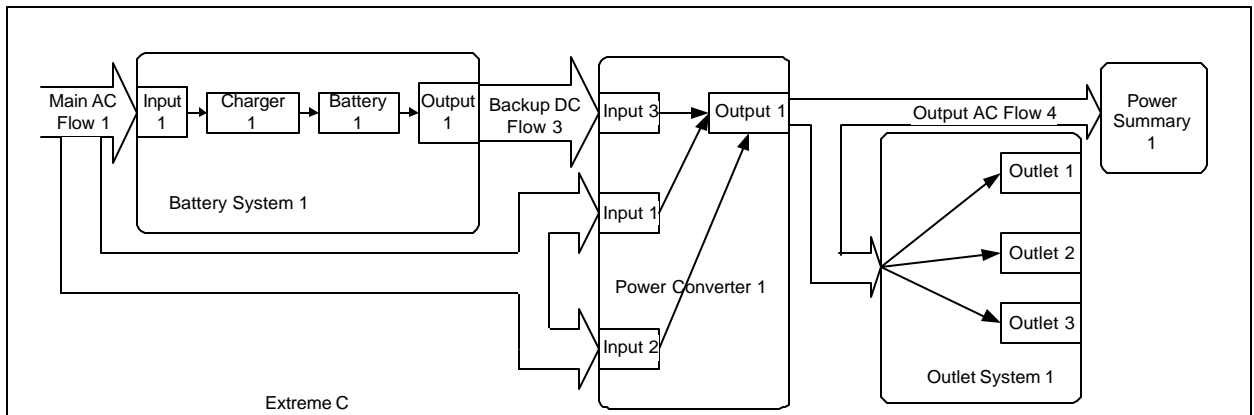


Figure 6: Pulsar Extreme C UPS

7.1 The Extreme C Collection tree

Collection UPS

- Collection PowerSummary

- Collection PowerConverter

 - Collection Input (1)

 - Collection Input (3)

 - Collection Output

- Collection BatterySystem

 - Collection Input

 - Collection Charger

 - Collection Output

 - Collection Battery

- Collection Flow (1:Main AC)

- Collection Flow (3:Backup DC)

- Collection Flow (4:AC Output)

- Collection OutletSystem

 - Collection Outlet (1:Non Switchable)

 - Collection Outlet (2:Switchable)

 - Collection Outlet (3:Switchable)

7.2 The Extreme C HID report descriptor

```

char ReportDescriptor[1535] = {
    0x05, 0x84,          // USAGE_PAGE (Power Device)
    0x09, 0x04,          // USAGE (UPS)
    0xa1, 0x01,          // COLLECTION (Application)
    0x09, 0x24,          // USAGE (PowerSummary)
    0xa1, 0x00,          // COLLECTION (Physical)
    0x85, 0x01,          // REPORT_ID (1)
    0x09, 0x25,          // USAGE (PowerSummaryID)
    0x09, 0x1f,          // USAGE (FlowID)
    0x75, 0x08,          // REPORT_SIZE (8)
    0x95, 0x02,          // REPORT_COUNT (2)
    0x15, 0x00,          // LOGICAL_MINIMUM (0)
    0x26, 0xff, 0x00,    // LOGICAL_MAXIMUM (255)
    0x65, 0x00,          // UNIT (None)
    0x55, 0x00,          // UNIT_EXPONENT (0)
    0xb1, 0x03,          // FEATURE (Cnst,Var,Abs)
    0x06, 0xff, 0xff,    // USAGE_PAGE (Vendor defined MGE 1)
    0x09, 0x4d,          // USAGE (0x4d)
    0x85, 0x34,          // REPORT_ID (52)
    0x25, 0x64,          // LOGICAL_MAXIMUM (100)
    0x95, 0x01,          // REPORT_COUNT (1)
    0xb1, 0x82,          // FEATURE (Data,Var,Abs,Vol)
    0x05, 0x85,          // USAGE_PAGE (Battery System)
    0x85, 0x05,          // REPORT_ID (5)
    0x09, 0x8b,          // USAGE (Rechargeable)
    0x09, 0x2c,          // USAGE (CapacityMode)
    0x95, 0x02,          // REPORT_COUNT (2)
    0x26, 0xff, 0x00,    // LOGICAL_MAXIMUM (255)
    0xb1, 0x03,          // FEATURE (Cnst,Var,Abs)
    0x09, 0x83,          // USAGE (DesignCapacity)
    0x95, 0x01,          // REPORT_COUNT (1)
    0x25, 0x64,          // LOGICAL_MAXIMUM (100)
    0xb1, 0x03,          // FEATURE (Cnst,Var,Abs)
    0x85, 0x15,          // REPORT_ID (21)
    0x09, 0x29,          // USAGE (RemainingCapacityLimit)
    0xb1, 0x83,          // FEATURE (Cnst,Var,Abs,Vol)
    0x85, 0x05,          // REPORT_ID (5)
    0x09, 0x8d,          // USAGE (CapacityGranularity1)
    0xb1, 0x03,          // FEATURE (Cnst,Var,Abs)
    0x05, 0x84,          // USAGE_PAGE (Power Device)
    0x09, 0xfe,          // USAGE (Undefined)
    0x26, 0xff, 0x00,    // LOGICAL_MAXIMUM (255)
    0xb1, 0x03,          // FEATURE (Cnst,Var,Abs)
    0x05, 0x85,          // USAGE_PAGE (Battery System)
    0x09, 0x89,          // USAGE (iDeviceChemistry)
    0x09, 0x8f,          // USAGE (Undefined)
    0x95, 0x02,          // REPORT_COUNT (2)
    0xb1, 0x03,          // FEATURE (Cnst,Var,Abs)
    0x06, 0xff, 0xff,    // USAGE_PAGE (Vendor defined MGE 1)
    0x85, 0x06,          // REPORT_ID (6)
    0x09, 0xf0,          // USAGE (iModel)
    0x95, 0x01,          // REPORT_COUNT (1)
    0xb1, 0x03,          // FEATURE (Cnst,Var,Abs)
    0x05, 0x84,          // USAGE_PAGE (Power Device)
    0x85, 0x09,          // REPORT_ID (9)
    0x09, 0xff,          // USAGE (Undefined)
    0xb1, 0x03,          // FEATURE (Cnst,Var,Abs)
    0x09, 0xfd,          // USAGE (Undefined)
    0xb1, 0x03,          // FEATURE (Cnst,Var,Abs)
    0x05, 0x85,          // USAGE_PAGE (Battery System)
    0x85, 0x0c,          // REPORT_ID (12)

```

```

0x09, 0x66, // USAGE (RemainingCapacity)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x66, // USAGE (RemainingCapacity)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x68, // USAGE (RunTimeToEmpty)
0x75, 0x18, // REPORT_SIZE (24)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0x27, 0xff, 0xff, 0xff, 0x00, // LOGICAL_MAXIMUM (16777215)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x68, // USAGE (RunTimeToEmpty)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x85, 0x0d, // REPORT_ID (13)
0x09, 0x35, // USAGE (PercentLoad)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x85, 0x0e, // REPORT_ID (14)
0x09, 0x5f, // USAGE (0x5f)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0x65, 0x00, // UNIT (None)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x23, // REPORT_ID (35)
0x09, 0x48, // USAGE (0x48)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x85, 0x0a, // REPORT_ID (10)
0x09, 0x30, // USAGE (Voltage)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x40, // USAGE (ConfigVoltage)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x16, // REPORT_ID (22)
0x09, 0x57, // USAGE (DelayBeforeShutdown)
0x75, 0x18, // REPORT_SIZE (24)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0x55, 0x00, // UNIT_EXPONENT (0)
0x15, 0xff, // LOGICAL_MINIMUM (-1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x17, // REPORT_ID (23)
0x09, 0x56, // USAGE (DelayBeforeStartup)
0x55, 0x01, // UNIT_EXPONENT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x18, // REPORT_ID (24)
0x09, 0x5a, // USAGE (Undefined)
0x75, 0x08, // REPORT_SIZE (8)
0x15, 0x01, // LOGICAL_MINIMUM (1)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0x81, 0x82, // INPUT (Data,Var,Abs,Vol)
0x09, 0x5a, // USAGE (Undefined)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x0f, // REPORT_ID (15)
0x05, 0x85, // USAGE_PAGE (Battery System)

```

```

0x09, 0xd0, // USAGE (ACPresent)
0x09, 0x44, // USAGE (Charging)
0x09, 0x45, // USAGE (Discharging)
0x09, 0x42, // USAGE (BelowRemainingCapacityLimit)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x04, // REPORT_COUNT (4)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x73, // USAGE (Undefined)
0x95, 0x01, // REPORT_COUNT (1)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0x4b, // USAGE (NeedReplacement)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x61, // USAGE (Good)
0x09, 0x69, // USAGE (ShutdownImminent)
0x09, 0x65, // USAGE (Overload)
0x09, 0x67, // USAGE (OverTemperature)
0x09, 0x62, // USAGE (InternalFailure)
0x95, 0x05, // REPORT_COUNT (5)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x95, 0x01, // REPORT_COUNT (1)
0x75, 0x05, // REPORT_SIZE (5)
0x81, 0x03, // INPUT (Cnst,Var,Abs)
0x85, 0x0f, // REPORT_ID (15)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0xd0, // USAGE (ACPresent)
0x09, 0x44, // USAGE (Charging)
0x09, 0x45, // USAGE (Discharging)
0x09, 0x42, // USAGE (BelowRemainingCapacityLimit)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x04, // REPORT_COUNT (4)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x73, // USAGE (Undefined)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0x4b, // USAGE (NeedReplacement)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x61, // USAGE (Good)
0x09, 0x69, // USAGE (ShutdownImminent)
0x09, 0x65, // USAGE (Overload)
0x09, 0x67, // USAGE (OverTemperature)
0x09, 0x62, // USAGE (InternalFailure)
0x95, 0x05, // REPORT_COUNT (5)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x95, 0x01, // REPORT_COUNT (1)
0x75, 0x05, // REPORT_SIZE (5)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x0b, // REPORT_ID (11)
0x75, 0x01, // REPORT_SIZE (1)
0x09, 0x6c, // USAGE (Switchable)
0x81, 0x03, // INPUT (Cnst,Var,Abs)
0x09, 0x6c, // USAGE (Switchable)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x00, // USAGE (Undefined)
0x75, 0x07, // REPORT_SIZE (7)

```



```

0x81, 0x03, // INPUT (Cnst,Var,Abs)
0x09, 0x00, // USAGE (Undefined)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x16, // USAGE (PowerConverter)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x01, // REPORT_ID (1)
0x09, 0x17, // USAGE (PowerConverterID)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x85, 0x19, // REPORT_ID (25)
0x09, 0x42, // USAGE (0x42)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x42, // USAGE (0x42)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x09, // REPORT_ID (9)
0x09, 0x41, // USAGE (0x41)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x1a, // USAGE (Input)
0xa1, 0x81, // COLLECTION (VendorDefined)
0x85, 0x01, // REPORT_ID (1)
0x09, 0x1b, // USAGE (InputID)
0x09, 0x1f, // USAGE (FlowID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x02, // REPORT_COUNT (2)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x06, // REPORT_ID (6)
0x09, 0x30, // USAGE (Voltage)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x32, // USAGE (Frequency)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x85, 0x1a, // REPORT_ID (26)
0x09, 0x43, // USAGE (0x43)
0x75, 0x01, // REPORT_SIZE (1)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x75, 0x07, // REPORT_SIZE (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x10, // REPORT_ID (16)
0x09, 0x6d, // USAGE (Used)
0x09, 0x61, // USAGE (Good)
0x09, 0x62, // USAGE (InternalFailure)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x03, // REPORT_COUNT (3)
0x25, 0x01, // LOGICAL_MAXIMUM (1)

```

```

0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x6d, // USAGE (Used)
0x09, 0x61, // USAGE (Good)
0x09, 0x62, // USAGE (InternalFailure)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x1a, // USAGE (Input)
0xa1, 0x82, // COLLECTION (VendorDefined)
0x85, 0x01, // REPORT_ID (1)
0x09, 0x1b, // USAGE (InputID)
0x09, 0x1f, // USAGE (FlowID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x06, // REPORT_ID (6)
0x09, 0x30, // USAGE (Voltage)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x32, // USAGE (Frequency)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x10, // REPORT_ID (16)
0x09, 0x6d, // USAGE (Used)
0x09, 0x61, // USAGE (Good)
0x09, 0x65, // USAGE (Overload)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x03, // REPORT_COUNT (3)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x6d, // USAGE (Used)
0x09, 0x61, // USAGE (Good)
0x09, 0x65, // USAGE (Overload)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x85, 0x1c, // REPORT_ID (28)
0x09, 0x54, // USAGE (0x54)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x1d, // REPORT_ID (29)
0x09, 0x55, // USAGE (0x55)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0xc0, // END_COLLECTION
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x1a, // USAGE (Input)
0xa1, 0x83, // COLLECTION (VendorDefined)
0x85, 0x02, // REPORT_ID (2)
0x09, 0x1b, // USAGE (InputID)
0x09, 0x1f, // USAGE (FlowID)
0x95, 0x02, // REPORT_COUNT (2)

```

```

0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x85, 0x1b, // REPORT_ID (27)
0x09, 0x46, // USAGE (0x46)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x75, 0x07, // REPORT_SIZE (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x1e, // REPORT_ID (30)
0x09, 0x47, // USAGE (0x47)
0x75, 0x01, // REPORT_SIZE (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x75, 0x07, // REPORT_SIZE (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x10, // REPORT_ID (16)
0x09, 0x6d, // USAGE (Used)
0x09, 0x61, // USAGE (Good)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x02, // REPORT_COUNT (2)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x6d, // USAGE (Used)
0x09, 0x61, // USAGE (Good)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x1c, // USAGE (Output)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x02, // REPORT_ID (2)
0x09, 0x1d, // USAGE (OutputID)
0x09, 0x1f, // USAGE (FlowID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x07, // REPORT_ID (7)
0x09, 0x30, // USAGE (Voltage)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x32, // USAGE (Frequency)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x33, // USAGE (ApparentPower)
0x75, 0x10, // REPORT_SIZE (16)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x21, 0xd1, // UNIT (SI Lin:Power)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x31, // USAGE (Current)
0x67, 0x01, 0x00, 0x10, 0x00, // UNIT (SI Lin:Amps)

```

```

0x55, 0x0e, // UNIT_EXPONENT (-2)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x08, // REPORT_ID (8)
0x09, 0x61, // USAGE (Good)
0x09, 0x65, // USAGE (Overload)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x02, // REPORT_COUNT (2)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x61, // USAGE (Good)
0x09, 0x65, // USAGE (Overload)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x95, 0x01, // REPORT_COUNT (1)
0x75, 0x06, // REPORT_SIZE (6)
0x81, 0x03, // INPUT (Cnst,Var,Abs)
0x09, 0x00, // USAGE (Undefined)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x85, 0x1f, // REPORT_ID (31)
0x09, 0x44, // USAGE (0x44)
0x75, 0x01, // REPORT_SIZE (1)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x75, 0x07, // REPORT_SIZE (7)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x10, // USAGE (BatterySystem)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x02, // REPORT_ID (2)
0x09, 0x11, // USAGE (BatterySystemID)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x1a, // USAGE (Input)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x1b, // USAGE (InputID)
0x09, 0x1f, // USAGE (FlowID)
0x95, 0x02, // REPORT_COUNT (2)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x09, 0x14, // USAGE (Charger)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x03, // REPORT_ID (3)
0x09, 0x15, // USAGE (ChargerID)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x11, // REPORT_ID (17)
0x09, 0x61, // USAGE (Good)
0x09, 0x62, // USAGE (InternalFailure)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x02, // REPORT_COUNT (2)
0x25, 0x01, // LOGICAL_MAXIMUM (1)

```

```

0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x61, // USAGE (Good)
0x09, 0x62, // USAGE (InternalFailure)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x1c, // USAGE (Output)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x03, // REPORT_ID (3)
0x09, 0x1d, // USAGE (OutputID)
0x09, 0x1f, // USAGE (FlowID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x09, 0x12, // USAGE (Battery)
0xa1, 0x00, // COLLECTION (Physical)
0x09, 0x13, // USAGE (BatteryID)
0x95, 0x01, // REPORT_COUNT (1)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x20, // REPORT_ID (32)
0x09, 0x58, // USAGE (Test)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x85, 0x22, // REPORT_ID (34)
0x09, 0x90, // USAGE (0x90)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x21, // REPORT_ID (33)
0x09, 0x45, // USAGE (0x45)
0x75, 0x18, // REPORT_SIZE (24)
0x27, 0xff, 0xff, 0xff, 0x00, // LOGICAL_MAXIMUM (16777215)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x11, // REPORT_ID (17)
0x09, 0x60, // USAGE (Present)
0x09, 0x61, // USAGE (Good)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x02, // REPORT_COUNT (2)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x60, // USAGE (Present)
0x09, 0x61, // USAGE (Good)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x95, 0x01, // REPORT_COUNT (1)
0x75, 0x04, // REPORT_SIZE (4)
0x81, 0x03, // INPUT (Cnst,Var,Abs)
0x09, 0x00, // USAGE (Undefined)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x1e, // USAGE (Flow)
0xa1, 0x81, // COLLECTION (VendorDefined)
0x85, 0x29, // REPORT_ID (41)
0x09, 0x40, // USAGE (ConfigVoltage)
0x75, 0x10, // REPORT_SIZE (16)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)

```

```

0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x2a, // REPORT_ID (42)
0x09, 0x42, // USAGE (ConfigFrequency)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x03, // REPORT_ID (3)
0x09, 0x1f, // USAGE (FlowID)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x09, 0x1e, // USAGE (Flow)
0xa1, 0x83, // COLLECTION (VendorDefined)
0x85, 0x03, // REPORT_ID (3)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x09, 0x1e, // USAGE (Flow)
0xa1, 0x84, // COLLECTION (VendorDefined)
0x85, 0x03, // REPORT_ID (3)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x2c, // REPORT_ID (44)
0x09, 0x40, // USAGE (ConfigVoltage)
0x75, 0x10, // REPORT_SIZE (16)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x2d, // REPORT_ID (45)
0x09, 0x42, // USAGE (ConfigFrequency)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x2e, // REPORT_ID (46)
0x09, 0x41, // USAGE (ConfigCurrent)
0x75, 0x10, // REPORT_SIZE (16)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x67, 0x01, 0x00, 0x10, 0x00, // UNIT (SI Lin:Amps)
0x55, 0x0e, // UNIT_EXPONENT (-2)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x2f, // REPORT_ID (47)
0x09, 0x43, // USAGE (ConfigApparentPower)
0x66, 0x21, 0xd1, // UNIT (SI Lin:Power)
0x55, 0x07, // UNIT_EXPONENT (7)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x30, // REPORT_ID (48)
0x09, 0x44, // USAGE (ConfigActivePower)
0x66, 0x21, 0xd1, // UNIT (SI Lin:Power)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x31, // REPORT_ID (49)
0x09, 0x45, // USAGE (ConfigPercentLoad)
0x75, 0x08, // REPORT_SIZE (8)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)

```

```

0xc0, // END_COLLECTION
0x09, 0x18, // USAGE (OutletSystem)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x04, // REPORT_ID (4)
0x09, 0x19, // USAGE (OutletSystemID)
0x75, 0x08, // REPORT_SIZE (8)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x20, // USAGE (Outlet)
0xa1, 0x81, // COLLECTION (VendorDefined)
0x09, 0x1f, // USAGE (FlowID)
0x09, 0x21, // USAGE (OutletID)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x12, // REPORT_ID (18)
0x09, 0x6c, // USAGE (Switchable)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x20, // USAGE (Outlet)
0xa1, 0x82, // COLLECTION (VendorDefined)
0x85, 0x04, // REPORT_ID (4)
0x09, 0x1f, // USAGE (FlowID)
0x09, 0x21, // USAGE (OutletID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x37, // REPORT_ID (55)
0x09, 0x57, // USAGE (DelayBeforeShutdown)
0x75, 0x18, // REPORT_SIZE (24)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0xff, // LOGICAL_MINIMUM (-1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x38, // REPORT_ID (56)
0x09, 0x56, // USAGE (DelayBeforeStartup)
0x55, 0x01, // UNIT_EXPONENT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x85, 0x39, // REPORT_ID (57)
0x09, 0x29, // USAGE (RemainingCapacityLimit)
0x75, 0x08, // REPORT_SIZE (8)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x85, 0x3a, // REPORT_ID (58)
0x09, 0x5d, // USAGE (0x5d)
0x75, 0x10, // REPORT_SIZE (16)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)

```

```

0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x3b, // REPORT_ID (59)
0x09, 0x5e, // USAGE (0x5e)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x12, // REPORT_ID (18)
0x09, 0x6c, // USAGE (Switchable)
0x75, 0x01, // REPORT_SIZE (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x13, // REPORT_ID (19)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x20, // USAGE (Outlet)
0xa1, 0x83, // COLLECTION (VendorDefined)
0x85, 0x04, // REPORT_ID (4)
0x09, 0x1f, // USAGE (FlowID)
0x09, 0x21, // USAGE (OutletID)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x02, // REPORT_COUNT (2)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x3c, // REPORT_ID (60)
0x09, 0x57, // USAGE (DelayBeforeShutdown)
0x75, 0x18, // REPORT_SIZE (24)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0xff, // LOGICAL_MINIMUM (-1)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x3d, // REPORT_ID (61)
0x09, 0x56, // USAGE (DelayBeforeStartup)
0x55, 0x01, // UNIT_EXPONENT (1)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x85, 0x3e, // REPORT_ID (62)
0x09, 0x29, // USAGE (RemainingCapacityLimit)
0x75, 0x08, // REPORT_SIZE (8)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x85, 0x3f, // REPORT_ID (63)
0x09, 0x5d, // USAGE (0x5d)
0x75, 0x10, // REPORT_SIZE (16)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x40, // REPORT_ID (64)
0x09, 0x5e, // USAGE (0x5e)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x02, // USAGE (PresentStatus)

```



```
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x12, // REPORT_ID (18)
0x09, 0x6c, // USAGE (Switchable)
0x75, 0x01, // REPORT_SIZE (1)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x00, // USAGE (Undefined)
0x75, 0x05, // REPORT_SIZE (5)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x13, // REPORT_ID (19)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0x75, 0x01, // REPORT_SIZE (1)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x00, // USAGE (Undefined)
0x75, 0x06, // REPORT_SIZE (6)
0x81, 0x03, // INPUT (Cnst,Var,Abs)
0x09, 0x00, // USAGE (Undefined)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0xc0 // END_COLLECTION
};
```

8. Pulsar Esprit Range

Pulsar *Esprit* is a standby technology UPS intended for very long back-up time (up to 16 hours) for computer & Industrial equipment protection. (USB and RS232 ports)

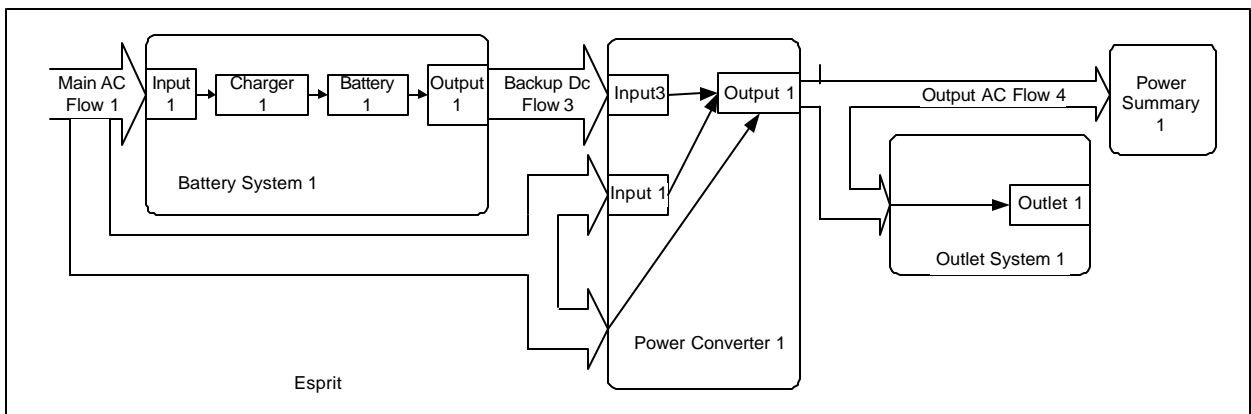


Figure 7: Pulsar Esprit UPS

8.1 The Esprit Collection tree

Collection UPS

Collection Flow (1:Main AC)

Collection Flow (3:Backup DC)

Collection Flow (4:AC Output)

Collection BatterySystem

Collection Input

Collection Charger

Collection Output

Collection Battery

Collection PowerConverter

Collection Input (1)

Collection Input (3)

Collection Output

Collection OutletSystem

Collection Outlet (1:Switchable)

Collection PowerSummary

8.2 The Esprit HID report descriptor

```

char ReportDescriptor[1340] = {
    0x05, 0x84, // USAGE_PAGE (Power Device)
    0x09, 0x04, // USAGE (UPS)
    0xa1, 0x01, // COLLECTION (Application)
    0x09, 0x1e, // USAGE (Flow)
    0xa1, 0x81, // COLLECTION (VendorDefined)
    0x85, 0x01, // REPORT_ID (1)
    0x75, 0x08, // REPORT_SIZE (8)
    0x95, 0x01, // REPORT_COUNT (1)
    0x15, 0x00, // LOGICAL_MINIMUM (0)
    0x25, 0x7f, // LOGICAL_MAXIMUM (127)
    0x65, 0x00, // UNIT (None)
    0x55, 0x00, // UNIT_EXPONENT (0)
    0x09, 0x1f, // USAGE (FlowID)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0x85, 0x02, // REPORT_ID (2)
    0x75, 0x10, // REPORT_SIZE (16)
    0x95, 0x01, // REPORT_COUNT (1)
    0x26, 0xf4, 0x01, // LOGICAL_MAXIMUM (500)
    0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
    0x55, 0x07, // UNIT_EXPONENT (7)
    0x09, 0x40, // USAGE (ConfigVoltage)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0x85, 0x03, // REPORT_ID (3)
    0x75, 0x08, // REPORT_SIZE (8)
    0x95, 0x01, // REPORT_COUNT (1)
    0x15, 0x2d, // LOGICAL_MINIMUM (45)
    0x25, 0x41, // LOGICAL_MAXIMUM (65)
    0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
    0x55, 0x00, // UNIT_EXPONENT (0)
    0x09, 0x42, // USAGE (ConfigFrequency)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0xc0, // END_COLLECTION
    0x09, 0x1e, // USAGE (Flow)
    0xa1, 0x83, // COLLECTION (VendorDefined)
    0x85, 0x04, // REPORT_ID (4)
    0x75, 0x08, // REPORT_SIZE (8)
    0x95, 0x01, // REPORT_COUNT (1)
    0x15, 0x00, // LOGICAL_MINIMUM (0)
    0x25, 0x7f, // LOGICAL_MAXIMUM (127)
    0x65, 0x00, // UNIT (None)
    0x09, 0x1f, // USAGE (FlowID)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0x85, 0x05, // REPORT_ID (5)
    0x75, 0x10, // REPORT_SIZE (16)
    0x95, 0x01, // REPORT_COUNT (1)
    0x26, 0xf4, 0x01, // LOGICAL_MAXIMUM (500)
    0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
    0x55, 0x07, // UNIT_EXPONENT (7)
    0x09, 0x40, // USAGE (ConfigVoltage)
    0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
    0xc0, // END_COLLECTION
    0x09, 0x1e, // USAGE (Flow)
    0xa1, 0x84, // COLLECTION (VendorDefined)
    0x85, 0x06, // REPORT_ID (6)
    0x75, 0x08, // REPORT_SIZE (8)
    0x95, 0x01, // REPORT_COUNT (1)
    0x15, 0x00, // LOGICAL_MINIMUM (0)
    0x25, 0x7f, // LOGICAL_MAXIMUM (127)
    0x65, 0x00, // UNIT (None)
    0x09, 0x1f, // USAGE (FlowID)

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0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x07, // REPORT_ID (7)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xf4, 0x01, // LOGICAL_MAXIMUM (500)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0x09, 0x40, // USAGE (ConfigVoltage)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x08, // REPORT_ID (8)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x2d, // LOGICAL_MINIMUM (45)
0x25, 0x41, // LOGICAL_MAXIMUM (65)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0x55, 0x00, // UNIT_EXPONENT (0)
0x09, 0x42, // USAGE (ConfigFrequency)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x09, // REPORT_ID (9)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x26, 0x20, 0x4e, // LOGICAL_MAXIMUM (20000)
0x66, 0x21, 0xd1, // UNIT (SI Lin:Power)
0x55, 0x07, // UNIT_EXPONENT (7)
0x09, 0x43, // USAGE (ConfigApparentPower)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x0a, // REPORT_ID (10)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x44, // USAGE (ConfigActivePower)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x09, 0x10, // USAGE (BatterySystem)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x0b, // REPORT_ID (11)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x7f, // LOGICAL_MAXIMUM (127)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0x09, 0x11, // USAGE (BatterySystemID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x1a, // USAGE (Input)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x0c, // REPORT_ID (12)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x1b, // USAGE (InputID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x0d, // REPORT_ID (13)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x09, 0x14, // USAGE (Charger)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x0e, // REPORT_ID (14)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x15, // USAGE (ChargerID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x0f, // REPORT_ID (15)
0x75, 0x01, // REPORT_SIZE (1)

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0x95, 0x08, // REPORT_COUNT (8)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x61, // USAGE (Good)
0x09, 0x62, // USAGE (InternalFailure)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x95, 0x08, // REPORT_COUNT (8)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x61, // USAGE (Good)
0x09, 0x62, // USAGE (InternalFailure)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x1c, // USAGE (Output)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x10, // REPORT_ID (16)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x7f, // LOGICAL_MAXIMUM (127)
0x09, 0x1d, // USAGE (OutputID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x11, // REPORT_ID (17)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0xc0, // END_COLLECTION
0x09, 0x12, // USAGE (Battery)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x12, // REPORT_ID (18)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x7f, // LOGICAL_MAXIMUM (127)
0x09, 0x13, // USAGE (BatteryID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x13, // REPORT_ID (19)
0x75, 0x18, // REPORT_SIZE (24)
0x95, 0x01, // REPORT_COUNT (1)
0x17, 0x80, 0x51, 0x01, 0x00, // LOGICAL_MINIMUM (86400)
0x27, 0xc4, 0xff, 0x3b, 0x00, // LOGICAL_MAXIMUM (3932100)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0x55, 0x00, // UNIT_EXPONENT (0)
0x0b, 0x45, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:0x45)
0xb1, 0x02, // FEATURE (Data,Var,Abs)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x14, // REPORT_ID (20)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x08, // REPORT_COUNT (8)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)

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0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x61, // USAGE (Good)
0x09, 0x60, // USAGE (Present)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x95, 0x08, // REPORT_COUNT (8)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x61, // USAGE (Good)
0x09, 0x60, // USAGE (Present)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x16, // USAGE (PowerConverter)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x15, // REPORT_ID (21)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x7f, // LOGICAL_MAXIMUM (127)
0x09, 0x17, // USAGE (PowerConverterID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x1a, // USAGE (Input)
0xa1, 0x81, // COLLECTION (VendorDefined)
0x85, 0x16, // REPORT_ID (22)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x1b, // USAGE (InputID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x17, // REPORT_ID (23)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x18, // REPORT_ID (24)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x26, 0xf4, 0x01, // LOGICAL_MAXIMUM (500)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0x09, 0x30, // USAGE (Voltage)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x19, // REPORT_ID (25)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x53, // USAGE (LowVoltageTransfer)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x1a, // REPORT_ID (26)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x54, // USAGE (HighVoltageTransfer)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x1b, // REPORT_ID (27)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x26, 0x64, 0x19, // LOGICAL_MAXIMUM (6500)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)

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0x55, 0x0e, // UNIT_EXPONENT (-2)
0x09, 0x32, // USAGE (Frequency)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x1c, // REPORT_ID (28)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x08, // REPORT_COUNT (8)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0x09, 0x61, // USAGE (Good)
0x09, 0x62, // USAGE (InternalFailure)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x95, 0x08, // REPORT_COUNT (8)
0x09, 0x61, // USAGE (Good)
0x09, 0x62, // USAGE (InternalFailure)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x1a, // USAGE (Input)
0xa1, 0x83, // COLLECTION (VendorDefined)
0x85, 0x1d, // REPORT_ID (29)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x7f, // LOGICAL_MAXIMUM (127)
0x09, 0x1b, // USAGE (InputID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x1e, // REPORT_ID (30)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x1f, // REPORT_ID (31)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xf4, 0x01, // LOGICAL_MAXIMUM (500)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0x09, 0x30, // USAGE (Voltage)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x20, // REPORT_ID (32)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x08, // REPORT_COUNT (8)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0x09, 0x00, // USAGE (Undefined)

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0x09, 0x00, // USAGE (Undefined)
0x09, 0x61, // USAGE (Good)
0x09, 0x6d, // USAGE (Used)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x95, 0x08, // REPORT_COUNT (8)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x61, // USAGE (Good)
0x09, 0x6d, // USAGE (Used)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x1c, // USAGE (Output)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x21, // REPORT_ID (33)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x7f, // LOGICAL_MAXIMUM (127)
0x09, 0x1d, // USAGE (OutputID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x22, // REPORT_ID (34)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x23, // REPORT_ID (35)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x09, 0x35, // USAGE (PercentLoad)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x24, // REPORT_ID (36)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xf4, 0x01, // LOGICAL_MAXIMUM (500)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0x09, 0x30, // USAGE (Voltage)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x25, // REPORT_ID (37)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0xd0, 0x07, // LOGICAL_MAXIMUM (2000)
0x67, 0x01, 0x00, 0x10, 0x00, // UNIT (SI Lin:Amps)
0x55, 0x0f, // UNIT_EXPONENT (-1)
0x09, 0x31, // USAGE (Current)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x26, // REPORT_ID (38)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x26, 0x64, 0x19, // LOGICAL_MAXIMUM (6500)
0x66, 0x01, 0xf0, // UNIT (SI Lin:Hertz)
0x55, 0x0e, // UNIT_EXPONENT (-2)
0x09, 0x32, // USAGE (Frequency)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x27, // REPORT_ID (39)
0x75, 0x10, // REPORT_SIZE (16)

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0x95, 0x01, // REPORT_COUNT (1)
0x26, 0x20, 0x4e, // LOGICAL_MAXIMUM (20000)
0x66, 0x21, 0xd1, // UNIT (SI Lin:Power)
0x55, 0x07, // UNIT_EXPONENT (7)
0x09, 0x33, // USAGE (ApparentPower)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x28, // REPORT_ID (40)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x34, // USAGE (ActivePower)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x18, // USAGE (OutletSystem)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x29, // REPORT_ID (41)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x7f, // LOGICAL_MAXIMUM (127)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0x09, 0x19, // USAGE (OutletSystemID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x20, // USAGE (Outlet)
0xa1, 0x81, // COLLECTION (VendorDefined)
0x85, 0x2a, // REPORT_ID (42)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x21, // USAGE (OutletID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x2b, // REPORT_ID (43)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x08, // REPORT_COUNT (8)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x09, 0x6c, // USAGE (Switchable)
0x09, 0x6b, // USAGE (SwitchOn/Off)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x09, 0x24, // USAGE (PowerSummary)
0xa1, 0x00, // COLLECTION (Physical)
0x85, 0x2c, // REPORT_ID (44)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x7f, // LOGICAL_MAXIMUM (127)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0x09, 0x25, // USAGE (PowerSummaryID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x2d, // REPORT_ID (45)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x1f, // USAGE (FlowID)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x2e, // REPORT_ID (46)

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0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x03, // LOGICAL_MAXIMUM (3)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0x2c, // USAGE (CapacityMode)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x2f, // REPORT_ID (47)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x09, 0x8b, // USAGE (Rechargeable)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x30, // REPORT_ID (48)
0x95, 0x01, // REPORT_COUNT (1)
0x25, 0x64, // LOGICAL_MAXIMUM (100)
0x09, 0x83, // USAGE (DesignCapacity)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x31, // REPORT_ID (49)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x67, // USAGE (FullChargeCapacity)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x32, // REPORT_ID (50)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x29, // USAGE (RemainingCapacityLimit)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x33, // REPORT_ID (51)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x8d, // USAGE (CapacityGranularity1)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x34, // REPORT_ID (52)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x66, // USAGE (RemainingCapacity)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x66, // USAGE (RemainingCapacity)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x85, 0x35, // REPORT_ID (53)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0x55, 0x00, // UNIT_EXPONENT (0)
0x09, 0x68, // USAGE (RunTimeToEmpty)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x68, // USAGE (RunTimeToEmpty)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0x85, 0x36, // REPORT_ID (54)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x2a, // USAGE (RemainingTimeLimit)
0xb1, 0x02, // FEATURE (Data,Var,Abs)
0x85, 0x37, // REPORT_ID (55)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x7f, // LOGICAL_MAXIMUM (127)
0x65, 0x00, // UNIT (None)
0x09, 0x89, // USAGE (iDeviceChemistry)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x38, // REPORT_ID (56)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x8f, // USAGE (Undefined)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x39, // REPORT_ID (57)
0x95, 0x01, // REPORT_COUNT (1)

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0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0xfe, // USAGE (Undefined)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x43, // REPORT_ID (67)
0x95, 0x01, // REPORT_COUNT (1)
0x0b, 0xf0, 0x00, 0xff, 0xff, // USAGE (Vendor defined MGE 1:iModel)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x3a, // REPORT_ID (58)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0xfd, // USAGE (Undefined)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x3b, // REPORT_ID (59)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0xff, // USAGE (Undefined)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x3c, // REPORT_ID (60)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x35, // USAGE (PercentLoad)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x3d, // REPORT_ID (61)
0x75, 0x18, // REPORT_SIZE (24)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0xff, // LOGICAL_MINIMUM (-1)
0x27, 0xff, 0xff, 0x7f, 0x00, // LOGICAL_MAXIMUM (8388607)
0x66, 0x01, 0x10, // UNIT (SI Lin:Time)
0x55, 0x00, // UNIT_EXPONENT (0)
0x09, 0x57, // USAGE (DelayBeforeShutdown)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x3e, // REPORT_ID (62)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x56, // USAGE (DelayBeforeStartup)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x3f, // REPORT_ID (63)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x55, // USAGE (DelayBeforeReboot)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x40, // REPORT_ID (64)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x26, 0xf4, 0x01, // LOGICAL_MAXIMUM (500)
0x67, 0x21, 0xd1, 0xf0, 0x00, // UNIT (SI Lin:Volts)
0x55, 0x07, // UNIT_EXPONENT (7)
0x09, 0x30, // USAGE (Voltage)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x85, 0x41, // REPORT_ID (65)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x01, // LOGICAL_MINIMUM (1)
0x25, 0x03, // LOGICAL_MAXIMUM (3)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0x09, 0x5a, // USAGE (Undefined)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x09, 0x02, // USAGE (PresentStatus)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x42, // REPORT_ID (66)
0x75, 0x01, // REPORT_SIZE (1)
0x95, 0x10, // REPORT_COUNT (16)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x01, // LOGICAL_MAXIMUM (1)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0xd0, // USAGE (ACPresent)
0x09, 0x44, // USAGE (Charging)

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0x09, 0x45, // USAGE (Discharging)
0x09, 0x42, // USAGE (BelowRemainingCapacityLimit)
0x09, 0x43, // USAGE (RemainingTimeLimitExpired)
0x09, 0x4b, // USAGE (NeedReplacement)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x61, // USAGE (Good)
0x09, 0x65, // USAGE (Overload)
0x09, 0x69, // USAGE (ShutdownImminent)
0x09, 0x62, // USAGE (InternalFailure)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x73, // USAGE (Undefined)
0xb1, 0x83, // FEATURE (Cnst,Var,Abs,Vol)
0x95, 0x10, // REPORT_COUNT (16)
0x05, 0x85, // USAGE_PAGE (Battery System)
0x09, 0xd0, // USAGE (ACPresent)
0x09, 0x44, // USAGE (Charging)
0x09, 0x45, // USAGE (Discharging)
0x09, 0x42, // USAGE (BelowRemainingCapacityLimit)
0x09, 0x43, // USAGE (RemainingTimeLimitExpired)
0x09, 0x4b, // USAGE (NeedReplacement)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x05, 0x84, // USAGE_PAGE (Power Device)
0x09, 0x61, // USAGE (Good)
0x09, 0x65, // USAGE (Overload)
0x09, 0x69, // USAGE (ShutdownImminent)
0x09, 0x62, // USAGE (InternalFailure)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x00, // USAGE (Undefined)
0x09, 0x73, // USAGE (Undefined)
0x81, 0x83, // INPUT (Cnst,Var,Abs,Vol)
0xc0, // END_COLLECTION
0xc0, // END_COLLECTION
0x06, 0xff, 0xff, // USAGE_PAGE (Vendor defined MGE 1)
0x09, 0x70, // USAGE (0x70)
0xa1, 0x02, // COLLECTION (Logical)
0x85, 0x46, // REPORT_ID (70)
0x75, 0x10, // REPORT_SIZE (16)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x27, 0xff, 0xff, 0x00, 0x00, // LOGICAL_MAXIMUM (65535)
0x65, 0x00, // UNIT (None)
0x55, 0x00, // UNIT_EXPONENT (0)
0x09, 0x89, // USAGE (0x89)
0xb1, 0x02, // FEATURE (Data,Var,Abs)
0x85, 0x47, // REPORT_ID (71)
0x95, 0x01, // REPORT_COUNT (1)
0x09, 0x8a, // USAGE (0x8a)
0xb1, 0x82, // FEATURE (Data,Var,Abs,Vol)
0x85, 0x48, // REPORT_ID (72)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x01, // LOGICAL_MINIMUM (1)
0x25, 0x02, // LOGICAL_MAXIMUM (2)
0x09, 0x88, // USAGE (0x88)
0xb1, 0x02, // FEATURE (Data,Var,Abs)
0x85, 0x49, // REPORT_ID (73)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)

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0x25, 0x03, // LOGICAL_MAXIMUM (3)
0x09, 0x71, // USAGE (0x71)
0xb1, 0x03, // FEATURE (Cnst,Var,Abs)
0x85, 0x4a, // REPORT_ID (74)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x26, 0xff, 0x00, // LOGICAL_MAXIMUM (255)
0x09, 0x73, // USAGE (0x73)
0xb1, 0x02, // FEATURE (Data,Var,Abs)
0xc0, // END_COLLECTION
0xc0 // END_COLLECTION
};
```

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