[**midea\_ac\_lan**](https://github.com/georgezhao2010/midea_ac_lan)**/**[**custom\_components**](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components)**/**[**midea\_ac\_lan**](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components/midea_ac_lan)**/**[**midea**](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components/midea_ac_lan/midea)**/**[**devices**](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components/midea_ac_lan/midea/devices)**/**[**c3**](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components/midea_ac_lan/midea/devices/c3)**/device.py**

|  |  |
| --- | --- |
| Import logging |  |
|  | **Import logging – I assume ‘logging’ subroutine is located within the HA code.** from ...core.device import MiedaDevice Import class ‘MiedaDevice’ – from core.device Program located within [midea\_ac\_lan](https://github.com/georgezhao2010/midea_ac_lan)/[custom\_components](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components)/[midea\_ac\_lan](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components/midea_ac_lan)/[midea](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components/midea_ac_lan/midea)/[core](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components/midea_ac_lan/midea/core)/device.py |
|  | from .message import ( |
|  | MessageQuery, Import class ‘MessageQuery’ |
|  | MessageC3Response, Import class ‘MessageC3Response’ |
|  | MessageSet Import class ‘MessageSet' from [midea\_ac\_lan](https://github.com/georgezhao2010/midea_ac_lan)/[custom\_components](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components)/[midea\_ac\_lan](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components/midea_ac_lan)/[midea](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components/midea_ac_lan/midea)/[devices](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components/midea_ac_lan/midea/devices)/[c3](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components/midea_ac_lan/midea/devices/c3)/message.py |
|  | ) |
|  | from ...backports.enum import StrEnum Import class ‘StrEnum’ from [midea\_ac\_lan](https://github.com/georgezhao2010/midea_ac_lan)/[custom\_components](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components)/[midea\_ac\_lan](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components/midea_ac_lan)/[midea](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components/midea_ac_lan/midea)/[backports](https://github.com/georgezhao2010/midea_ac_lan/tree/master/custom_components/midea_ac_lan/midea/backports)/enum.py |
|  | The import lines import routines from other files, I am sure you are familiar with the concept if not the actual python syntax. It’s tedious to do, but you can then go to the file being imported from and see what is being imported |
|  |  |
|  | \_LOGGER = logging.getLogger(\_\_name\_\_) |
|  |  |
|  |  |
|  | class DeviceAttributes(StrEnum): |
|  | zone1\_power = "zone1\_power" |
|  | zone2\_power = "zone2\_power" |
|  | dhw\_power = "dhw\_power" |
|  | zone1\_curve = "zone1\_curve" |
|  | zone2\_curve = "zone2\_curve" |
|  | disinfect = "disinfect" |
|  | fast\_dhw = "fast\_dhw" |
|  | zone\_temp\_type = "zone\_temp\_type" |
|  | zone1\_room\_temp\_mode = "zone1\_room\_temp\_mode" |
|  | zone2\_room\_temp\_mode = "zone2\_room\_temp\_mode" |
|  | zone1\_water\_temp\_mode = "zone1\_water\_temp\_mode" |
|  | zone2\_water\_temp\_mode = "zone2\_water\_temp\_mode" |
|  | mode = "mode" |
|  | mode\_auto = "mode\_auto" |
|  | zone\_target\_temp = "zone\_target\_temp" |
|  | dhw\_target\_temp = "dhw\_target\_temp" |
|  | room\_target\_temp = "room\_target\_temp" |
|  | zone\_heating\_temp\_max = "zone\_heating\_temp\_max" |
|  | zone\_heating\_temp\_min = "zone\_heating\_temp\_min" |
|  | zone\_cooling\_temp\_max = "zone\_cooling\_temp\_max" |
|  | zone\_cooling\_temp\_min = "zone\_cooling\_temp\_min" |
|  | tank\_actual\_temperature = "tank\_actual\_temperature" |
|  | room\_temp\_max = "room\_temp\_max" |
|  | room\_temp\_min = "room\_temp\_min" |
|  | dhw\_temp\_max = "dhw\_temp\_max" |
|  | dhw\_temp\_min = "dhw\_temp\_min" |
|  | target\_temperature = "target\_temperature" |
|  | temperature\_max = "temperature\_max" |
|  | temperature\_min = "temperature\_min" |
|  |  |
|  |  |
|  | **The mystery is why this list stops here. It appears to be a list of the parameters in the first message type 03/body type o1 message, but there is no corresponding list for message type 04/body type 04 message (which has among other things the total energy parameters). However, this is the “georgezhao2010” original version of the code, in the “ wasilukm” modified version that gets the total energy paprameters the following lines have been added:**  **status\_heating = "status\_heating"**  **status\_dhw = "status\_dhw"**  **status\_tbh = "status\_tbh"**  **status\_ibh = "status\_ibh"**  **total\_energy\_consumption = "total\_energy\_consumption"**  **total\_produced\_energy = "total\_produced\_energy"**  **total\_mystery1 = "total\_mystery1"**  **total\_mystery2 = "total\_mystery2"**  **with the last two added by me as test variables, which do get something (using other added code elsewhere), but they are huge numbers that aren’t obviously anything in particular (eg from a recent log debug entry: “'total\_mystery1': 42952302130, 'total\_mystery2': 206161248001”).**  **Conclusion: you need to define the parameters here, but how on earth do you know what to call them, if you don’t know what they are? This is the main reason why I think both developers have some sort of inside knowledge – how else could they know what is in the messages, which byte(s) hold what data, and how to process them?** |
|  | class MideaC3Device(MiedaDevice): |
|  | def \_\_init\_\_( |
|  | self, |
|  | name: str, |
|  | device\_id: int, |
|  | ip\_address: str, |
|  | port: int, |
|  | token: str, |
|  | key: str, |
|  | protocol: int, |
|  | model: str, |
|  | customize: str |
|  | ): |
|  | super().\_\_init\_\_( |
|  | name=name, |
|  | device\_id=device\_id, |
|  | device\_type=0xC3, |
|  | ip\_address=ip\_address, |
|  | port=port, |
|  | token=token, |
|  | key=key, |
|  | protocol=protocol, |
|  | model=model |
|  | ) |
|  | self.\_attributes = { |
|  | DeviceAttributes.zone1\_power: False, |
|  | DeviceAttributes.zone2\_power: False, |
|  | DeviceAttributes.dhw\_power: False, |
|  | DeviceAttributes.zone1\_curve: False, |
|  | DeviceAttributes.zone2\_curve: False, |
|  | DeviceAttributes.disinfect: False, |
|  | DeviceAttributes.fast\_dhw: False, |
|  | DeviceAttributes.zone\_temp\_type: [False, False], |
|  | DeviceAttributes.zone1\_room\_temp\_mode: False, |
|  | DeviceAttributes.zone2\_room\_temp\_mode: False, |
|  | DeviceAttributes.zone1\_water\_temp\_mode: False, |
|  | DeviceAttributes.zone2\_water\_temp\_mode: False, |
|  | DeviceAttributes.mode: 1, |
|  | DeviceAttributes.mode\_auto: 1, |
|  | DeviceAttributes.zone\_target\_temp: [25, 25], |
|  | DeviceAttributes.dhw\_target\_temp: 25, |
|  | DeviceAttributes.room\_target\_temp: 30, |
|  | DeviceAttributes.zone\_heating\_temp\_max: [55, 55], |
|  | DeviceAttributes.zone\_heating\_temp\_min: [25, 25], |
|  | DeviceAttributes.zone\_cooling\_temp\_max: [25, 25], |
|  | DeviceAttributes.zone\_cooling\_temp\_min: [5, 5], |
|  | DeviceAttributes.room\_temp\_max: 60, |
|  | DeviceAttributes.room\_temp\_min: 34, |
|  | DeviceAttributes.dhw\_temp\_max: 60, |
|  | DeviceAttributes.dhw\_temp\_min: 20, |
|  | DeviceAttributes.tank\_actual\_temperature: None, |
|  | DeviceAttributes.target\_temperature: [25, 25], |
|  | DeviceAttributes.temperature\_max: [0, 0], |
|  | DeviceAttributes.temperature\_min: [0, 0] |
|  | } |
|  |  |
|  | def build\_query(self): |
|  | return [MessageQuery(self.\_device\_protocol\_version)] |
|  |  |
|  | def process\_message(self, msg): |
|  | message = MessageC3Response(msg) |
|  | \_LOGGER.debug(f"[{self.device\_id}] Received: {message}") |
|  | new\_status = {} |
|  | for status in self.\_attributes.keys(): |
|  | if hasattr(message, status.value): |
|  | self.\_attributes[status] = getattr(message, status.value) |
|  | new\_status[status.value] = getattr(message, status.value) |
|  | if len(new\_status) > 0: |
|  | for zone in [0, 1]: |
|  | if self.\_attributes[DeviceAttributes.zone\_temp\_type][zone]: # Water temp mode |
|  | self.\_attributes[DeviceAttributes.target\_temperature][zone] = \ |
|  | self.\_attributes[DeviceAttributes.zone\_target\_temp][zone] |
|  | if self.\_attributes[DeviceAttributes.mode\_auto] == 2: # cooling mode |
|  | self.\_attributes[DeviceAttributes.temperature\_max][zone] = \ |
|  | self.\_attributes[DeviceAttributes.zone\_cooling\_temp\_max][zone] |
|  | self.\_attributes[DeviceAttributes.temperature\_min][zone] = \ |
|  | self.\_attributes[DeviceAttributes.zone\_cooling\_temp\_min][zone] |
|  | elif self.\_attributes[DeviceAttributes.mode] == 3: # heating mode |
|  | self.\_attributes[DeviceAttributes.temperature\_max][zone] = \ |
|  | self.\_attributes[DeviceAttributes.zone\_heating\_temp\_max][zone] |
|  | self.\_attributes[DeviceAttributes.temperature\_min][zone] = \ |
|  | self.\_attributes[DeviceAttributes.zone\_heating\_temp\_min][zone] |
|  | else: # Room temp mode |
|  | self.\_attributes[DeviceAttributes.target\_temperature][zone] = \ |
|  | self.\_attributes[DeviceAttributes.room\_target\_temp] |
|  | self.\_attributes[DeviceAttributes.temperature\_max][zone] = \ |
|  | self.\_attributes[DeviceAttributes.room\_temp\_max] |
|  | self.\_attributes[DeviceAttributes.temperature\_min][zone] = \ |
|  | self.\_attributes[DeviceAttributes.room\_temp\_min] |
|  | if self.\_attributes[DeviceAttributes.zone1\_power]: |
|  | if self.\_attributes[DeviceAttributes.zone\_temp\_type][zone]: |
|  | self.\_attributes[DeviceAttributes.zone1\_water\_temp\_mode] = True |
|  | self.\_attributes[DeviceAttributes.zone1\_room\_temp\_mode] = False |
|  | else: |
|  | self.\_attributes[DeviceAttributes.zone1\_water\_temp\_mode] = False |
|  | self.\_attributes[DeviceAttributes.zone1\_room\_temp\_mode] = True |
|  | else: |
|  | self.\_attributes[DeviceAttributes.zone1\_water\_temp\_mode] = False |
|  | self.\_attributes[DeviceAttributes.zone1\_room\_temp\_mode] = False |
|  | if self.\_attributes[DeviceAttributes.zone2\_power]: |
|  | if self.\_attributes[DeviceAttributes.zone\_temp\_type][zone]: |
|  | self.\_attributes[DeviceAttributes.zone2\_water\_temp\_mode] = True |
|  | self.\_attributes[DeviceAttributes.zone2\_room\_temp\_mode] = False |
|  | else: |
|  | self.\_attributes[DeviceAttributes.zone2\_water\_temp\_mode] = False |
|  | self.\_attributes[DeviceAttributes.zone2\_room\_temp\_mode] = True |
|  | else: |
|  | self.\_attributes[DeviceAttributes.zone2\_water\_temp\_mode] = False |
|  | self.\_attributes[DeviceAttributes.zone2\_room\_temp\_mode] = False |
|  | new\_status[DeviceAttributes.zone1\_water\_temp\_mode.value] = \ |
|  | self.\_attributes[DeviceAttributes.zone1\_water\_temp\_mode] |
|  | new\_status[DeviceAttributes.zone2\_water\_temp\_mode.value] = \ |
|  | self.\_attributes[DeviceAttributes.zone2\_water\_temp\_mode] |
|  | new\_status[DeviceAttributes.zone1\_room\_temp\_mode.value] = \ |
|  | self.\_attributes[DeviceAttributes.zone1\_room\_temp\_mode] |
|  | new\_status[DeviceAttributes.zone2\_room\_temp\_mode.value] = \ |
|  | self.\_attributes[DeviceAttributes.zone2\_room\_temp\_mode] |
|  |  |
|  | return new\_status |
|  |  |
|  | def make\_message\_set(self): |
|  | message = MessageSet(self.\_device\_protocol\_version) |
|  | message.zone1\_power = self.\_attributes[DeviceAttributes.zone1\_power] |
|  | message.zone2\_power = self.\_attributes[DeviceAttributes.zone2\_power] |
|  | message.dhw\_power = self.\_attributes[DeviceAttributes.dhw\_power] |
|  | message.mode = self.\_attributes[DeviceAttributes.mode] |
|  | message.zone\_target\_temp = self.\_attributes[DeviceAttributes.zone\_target\_temp] |
|  | message.dhw\_target\_temp = self.\_attributes[DeviceAttributes.dhw\_target\_temp] |
|  | message.room\_target\_temp = self.\_attributes[DeviceAttributes.room\_target\_temp] |
|  | message.zone1\_curve = self.\_attributes[DeviceAttributes.zone1\_curve] |
|  | message.zone2\_curve = self.\_attributes[DeviceAttributes.zone2\_curve] |
|  | message.disinfect = self.\_attributes[DeviceAttributes.disinfect] |
|  | message.fast\_dhw = self.\_attributes[DeviceAttributes.fast\_dhw] |
|  | return message |
|  |  |
|  | def set\_attribute(self, attr, value): |
|  | if attr in [ |
|  | DeviceAttributes.zone1\_power, |
|  | DeviceAttributes.zone2\_power, |
|  | DeviceAttributes.dhw\_power, |
|  | DeviceAttributes.zone1\_curve, |
|  | DeviceAttributes.zone2\_curve, |
|  | DeviceAttributes.disinfect, |
|  | DeviceAttributes.fast\_dhw, |
|  | DeviceAttributes.dhw\_target\_temp |
|  | ]: |
|  | message = self.make\_message\_set() |
|  | setattr(message, str(attr), value) |
|  | self.build\_send(message) |
|  |  |
|  | def set\_mode(self, zone, mode): |
|  | message = self.make\_message\_set() |
|  | if zone == 0: |
|  | message.zone1\_power = True |
|  | else: |
|  | message.zone2\_power = True |
|  | message.mode = mode |
|  | self.build\_send(message) |
|  |  |
|  | def set\_target\_temperature(self, zone, target\_temperature, mode): |
|  | message = self.make\_message\_set() |
|  | if self.\_attributes[DeviceAttributes.zone\_temp\_type][zone]: |
|  | message.zone\_target\_temp[zone] = target\_temperature |
|  | else: |
|  | message.room\_target\_temp = target\_temperature |
|  | if mode is not None: |
|  | if zone == 0: |
|  | message.zone1\_power = True |
|  | else: |
|  | message.zone2\_power = True |
|  | message.mode = mode |
|  | self.build\_send(message) |
|  |  |
|  | @property |
|  | def attributes(self): |
|  | return super().attributes |
|  |  |
|  |  |
|  | class MideaAppliance(MideaC3Device): |
|  | pass |