Modified

[**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**

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| --- |
| from ...core.message import ( |
|  |
|  MessageType, |  |
|  |  MessageRequest, |
|  |  MessageResponse, |
|  |  MessageBody, |
|  | ) |
|  |  |
|  |  |
|  | class MessageC3Base(MessageRequest): |
|  |  def \_\_init\_\_(self, device\_protocol\_version, message\_type, body\_type): |
|  |  super().\_\_init\_\_( |
|  |  device\_protocol\_version=device\_protocol\_version, |
|  |  device\_type=0xC3, |
|  |  message\_type=message\_type, |
|  |  body\_type=body\_type |
|  |  ) |
|  |  |
|  |  @property |
|  |  def \_body(self): |
|  |  raise NotImplementedError |
|  |  |
|  |  |
|  | class MessageQuery(MessageC3Base): |
|  |  def \_\_init\_\_(self, device\_protocol\_version): |
|  |  super().\_\_init\_\_( |
|  |  device\_protocol\_version=device\_protocol\_version, |
|  |  message\_type=MessageType.query, |
|  |  body\_type=0x01) |
|  |  |
|  |  @property |
|  |  def \_body(self): |
|  |  return bytearray([]) |
|  |  |
|  |  |
|  | class MessageSet(MessageC3Base): |
|  |  def \_\_init\_\_(self, device\_protocol\_version): |
|  |  super().\_\_init\_\_( |
|  |  device\_protocol\_version=device\_protocol\_version, |
|  |  message\_type=MessageType.set, |
|  |  body\_type=0x01) |
|  |  self.zone1\_power = False |
|  |  self.zone2\_power = False |
|  |  self.dhw\_power = False |
|  |  self.mode = 0 |
|  |  self.zone\_target\_temp = [25, 25] |
|  |  self.dhw\_target\_temp = 40 |
|  |  self.room\_target\_temp = 25 |
|  |  self.zone1\_curve = False |
|  |  self.zone2\_curve = False |
|  |  self.disinfect = False |
|  |  self.fast\_dhw = False |
|  |  |
|  |  @property |
|  |  def \_body(self): |
|  |  # Byte 1 |
|  |  zone1\_power = 0x01 if self.zone1\_power else 0x00 |
|  |  zone2\_power = 0x02 if self.zone2\_power else 0x00 |
|  |  dhw\_power = 0x04 if self.dhw\_power else 0x00 |
|  |  # Byte 7 |
|  |  zone1\_curve = 0x01 if self.zone1\_curve else 0x00 |
|  |  zone2\_curve = 0x02 if self.zone2\_curve else 0x00 |
|  |  disinfect = 0x04 if self.disinfect else 0x00 |
|  |  fast\_dhw = 0x08 if self.fast\_dhw else 0x00 |
|  |  room\_target\_temp = int(self.room\_target\_temp \* 2) |
|  |  zone1\_target\_temp = int(self.zone\_target\_temp[0]) |
|  |  zone2\_target\_temp = int(self.zone\_target\_temp[1]) |
|  |  dhw\_target\_temp = int(self.dhw\_target\_temp) |
|  |  return bytearray([ |
|  |  zone1\_power | zone2\_power | dhw\_power, |
|  |  self.mode, zone1\_target\_temp, zone2\_target\_temp, |
|  |  dhw\_target\_temp, room\_target\_temp, |
|  |  zone1\_curve | zone2\_curve | disinfect | fast\_dhw |
|  |  ]) |
|  |  |
|  |  |
|  | class C3MessageBody(MessageBody): |
|  |  def \_\_init\_\_(self, body, data\_offset=0): |
|  |  super().\_\_init\_\_(body) |
|  |  self.zone1\_power = body[data\_offset + 0] & 0x01 > 0 |
|  |  self.zone2\_power = body[data\_offset + 0] & 0x02 > 0 |
|  |  self.dhw\_power = body[data\_offset + 0] & 0x04 > 0 |
|  |  self.zone1\_curve\_state = body[data\_offset + 0] & 0x08 > 0 |
|  |  self.zone2\_curve\_state = body[data\_offset + 0] & 0x10 > 0 |
|  |  self.disinfect = body[data\_offset + 0] & 0x20 > 0 |
|  |  self.fast\_dhw = body[data\_offset + 0] & 0x40 > 0 |
|  |  self.zone\_temp\_type = [ |
|  |  body[data\_offset + 1] & 0x10 > 0, |
|  |  body[data\_offset + 1] & 0x20 > 0 |
|  |  ] |
|  |  self.mode = body[data\_offset + 3] |
|  |  self.mode\_auto = body[data\_offset + 4] |
|  |  self.zone\_target\_temp = [ |
|  |  body[data\_offset + 5], |
|  |  body[data\_offset + 6] |
|  |  ] |
|  |  self.dhw\_target\_temp = body[data\_offset + 7] |
|  |  self.room\_target\_temp = body[data\_offset + 8] / 2 |
|  |  self.zone\_heating\_temp\_max = [ |
|  |  body[data\_offset + 9], |
|  |  body[data\_offset + 13] |
|  |  ] |
|  |  self.zone\_heating\_temp\_min = [ |
|  |  body[data\_offset + 10], |
|  |  body[data\_offset + 14] |
|  |  ] |
|  |  self.zone\_cooling\_temp\_max = [ |
|  |  body[data\_offset + 11], |
|  |  body[data\_offset + 15] |
|  |  ] |
|  |  self.zone\_cooling\_temp\_min = [ |
|  |  body[data\_offset + 12], |
|  |  body[data\_offset + 16] |
|  |  ] |
|  |  self.room\_temp\_max = body[data\_offset + 17] / 2 |
|  |  self.room\_temp\_min = body[data\_offset + 18] / 2 |
|  |  self.dhw\_temp\_max = body[data\_offset + 19] |
|  |  self.dhw\_temp\_min = body[data\_offset + 20] |
|  |  self.tank\_actual\_temperature = body[data\_offset + 21]class C3Notify1MessageBody(MessageBody): def \_\_init\_\_(self, body, data\_offset=0): super().\_\_init\_\_(body) status\_byte = body[data\_offset] self.status\_tbh = bool(status\_byte & 0x08) self.status\_dhw = bool(status\_byte & 0x04)

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|  self.status\_ibh = bool(status\_byte & 0x02) |
|  self.status\_heating = bool(status\_byte & 0x01) |  | ng =  |

 self.total\_energy\_consumption = ( (body[data\_offset + 1] << 32) + (body[data\_offset + 2] << 16) + (body[data\_offset + 3] << 8) + (body[data\_offset + 4])) self.total\_produced\_energy = ( (body[data\_offset + 5] << 32) + (body[data\_offset + 6] << 16) + (body[data\_offset + 7] << 8) + (body[data\_offset + 8])) **if body[9] != 0xFF:** **self.outdoor\_temperature = None** **else:** **temp\_integer = int((body[9] - 50) / 2)** **temp\_decimal = ((body[13] & 0xF) \* 0.1) if len(body) > 10 else 0** **if body[9] > 49:** **self.outdoor\_temperature = temp\_integer + temp\_decimal** **else:** **self.outdoor\_temperature = temp\_integer - temp\_decimal** |
|  |  |
|  |  |
|  | class MessageC3Response(MessageResponse): |
|  |  def \_\_init\_\_(self, message): |
|  |  super().\_\_init\_\_(message) |
|  |  body = message[self.HEADER\_LENGTH: -1] |
|  |  if (self.\_message\_type in [MessageType.notify1, MessageType.query] and self.\_body\_type == 0x01) or \ |
|  |  self.\_message\_type == MessageType.notify2: |
|  |  self.\_body = C3MessageBody(body, data\_offset=1) |
|  |  **elif self.\_message\_type == MessageType.notify1 and self.\_body\_type == 0x04:** **self.\_body = C3Notify1MessageBody(body, data\_offset=1)** self.set\_attr() |