

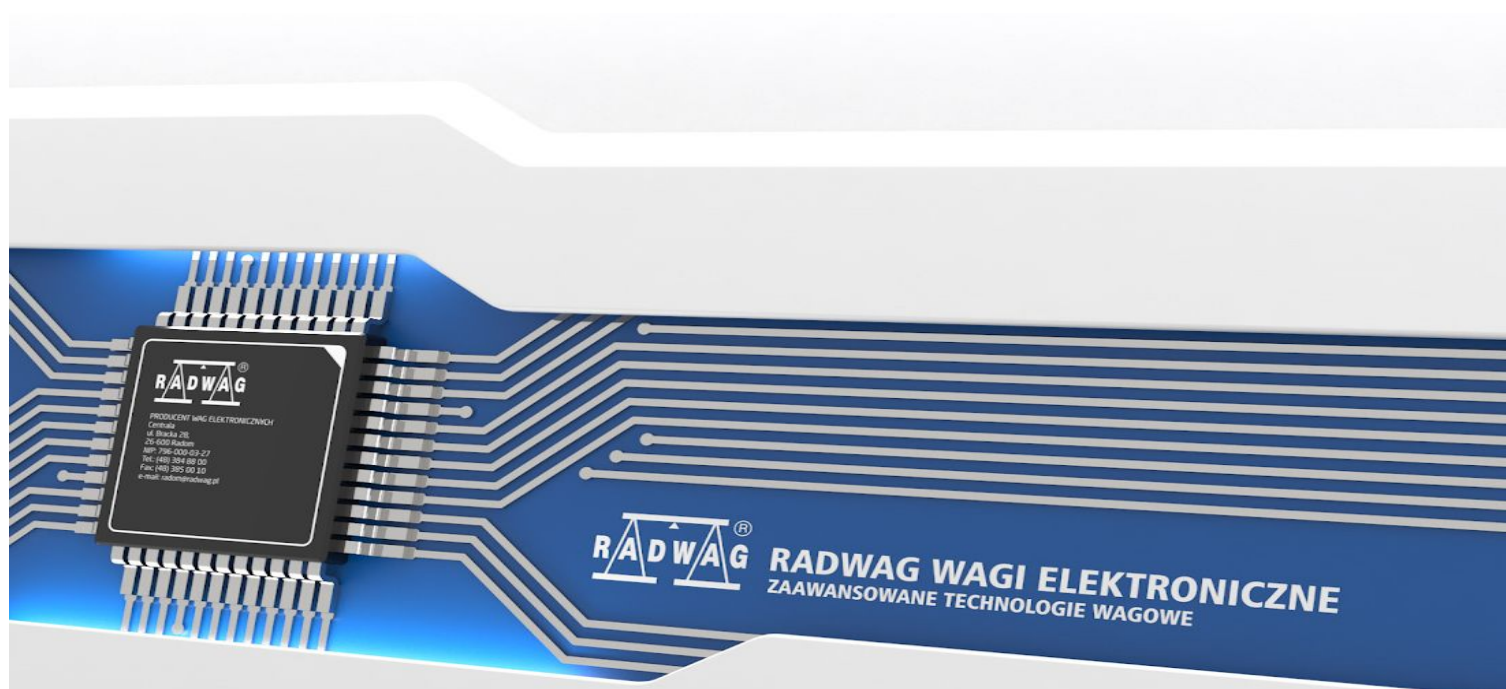
Interfejs wymiany danych HY10 JSON

Miernik wagowy:

PUE HY 10

PUE 71

Niniejszy dokument opisuje proces wymiany danych za pomocą protokołu w formacie json w terminalach wagowych. W celu poprawnej komunikacji należy używać nazw przewidzianych w tym dokumencie wypełniając je odpowiednimi typami informacji. Dane należy przesyłać za pomocą Websocketa łącząc się na porcie 4101.



| Zarządzanie wersjami | | | |
|----------------------|------------|--------------|--|
| Wersja | Data | Autor | Opis zmian |
| 1.0 | 20.11.2017 | Karol Kustra | Utworzenie dokumentu |
| 1.1 | 23.11.2017 | Karol Kustra | Aktualizacja komend GET_STATUS, DBREAD, DBDEL, GET_TABLES Dodanie komendy DBREAD |

1. Pobranie listy dostępnych tabel.

Aby pobrać listę tabel należy przesłać odpowiednio sformatowane zapytanie.

Zapytanie:

```
{  
  "COMMAND": "GET_TABLES",  
}
```

Odpowiedź:

```
{  
  "COMMAND": "GET_TABLES",  
  "RECORD": [  
    {  
      "NAME": "PRODUCTS",  
      "READ_ONLY": false,  
      "TRANSLATION_EN": "Products",  
      "TRANSLATION_CURRENT": "Towary"  
    },  
    {  
      "NAME": "USERS",  
      "READ_ONLY": false,  
      "TRANSLATION_EN": "Operators",  
      "TRANSLATION_CURRENT": "Operatorzy"  
    },  
    {  
      "NAME": "LABELS",  
      "READ_ONLY": false,  
      "TRANSLATION_EN": "Labels",  
      "TRANSLATION_CURRENT": "Etykiety"  
    },  
    {  
      "NAME": "PACKAGES",  
      "READ_ONLY": false,  
      "TRANSLATION_EN": "Packages",  
      "TRANSLATION_CURRENT": "Opakowania"  
    },  
    {  
      "NAME": "CLIENTS",  
      "READ_ONLY": false,  
      "TRANSLATION_EN": "Customers",  
      "TRANSLATION_CURRENT": "Kontrahenci"  
    },  
    {  
      "NAME": "WAREHOUSES",  
      "READ_ONLY": false,  
      "TRANSLATION_EN": "Warehouses",  
      "TRANSLATION_CURRENT": "Magazyny"  
    },  
    {  
      "NAME": "ADD_VAR",  
      "READ_ONLY": false,  

```

```

        "TRANSLATION_EN": "Extra variables",
        "TRANSLATION_CURRENT": "Zmienne dodatkowe"
    },
    {
        "NAME": "UNIV_VAR",
        "READ_ONLY": false,
        "TRANSLATION_EN": "Universal variables",
        "TRANSLATION_CURRENT": "Zmienne uniwersalne"
    },
    {
        "NAME": "VEHICLES",
        "READ_ONLY": false,
        "TRANSLATION_EN": "Vehicles",
        "TRANSLATION_CURRENT": "Samochody"
    },
    {
        "NAME": "WEIGHMENTS",
        "READ_ONLY": false,
        "TRANSLATION_EN": "Weighing records",
        "TRANSLATION_CURRENT": "Ważenia"
    }
],
"STS": "OK"
}

```

2. Informacje o tabeli - podstawowe

Na przykładzie tabeli Users - Operatorzy

Zapytanie:

```
{  
  "COMMAND": "DBINFO",  
  "TABLE": "USERS",  
  "PARAM": "COLUMNS"  
}
```

Odpowiedź:

```
{  
  "COMMAND": "DBINFO",  
  "TABLE": "USERS",  
  "COLUMNS": "ID NAME CODE PSW PERM CARD_NUMBER MODE AUTO_MODE ACTIVE  
ID_TRACEABILITY SURNAME MIN MAX",  
  "STS": "OK"  
}
```

3. Informacje o tabeli - szczegółowe

Na przykładzie tabeli Users - Operatorzy

Zapytanie:

```
{
  "COMMAND": "DBINFO",
  "TABLE": "USERS",
  "PARAM": "COLUMNS_DETAILS"
}
```

Odpowiedź:

```
{
  "COMMAND": "DBINFO",
  "TABLE": "USERS",
  "COLUMNS_DETAILS": [
    {
      "NAME": "ID",
      "TYPE": "INT",
      "MIN": "",
      "MAX": "",
      "DETAILS_EN": null,
      "DETAILS_CURRENT": null,
      "DEFAULT": "",
      "TRANSLATION_EN": "ID",
      "TRANSLATION_CURRENT": "ID"
    },
    {
      "NAME": "NAME",
      "TYPE": "TEXT",
      "MIN": "",
      "MAX": "",
      "DETAILS_EN": null,
      "DETAILS_CURRENT": null,
      "DEFAULT": "",
      "TRANSLATION_EN": "Name",
      "TRANSLATION_CURRENT": "Nazwa"
    },
    {
      "NAME": "CODE",
      "TYPE": "TEXT",
      "MIN": "",
      "MAX": "",
      "DETAILS_EN": null,
      "DETAILS_CURRENT": null,
      "DEFAULT": "",
      "TRANSLATION_EN": "Code",
      "TRANSLATION_CURRENT": "Kod"
    }
  ]
}
```

```

    "NAME": "PSW",
    "TYPE": "PASSWORD",
    "MIN": "",
    "MAX": "",
    "DETAILS_EN": null,
    "DETAILS_CURRENT": null,
    "DEFAULT": "",
    "TRANSLATION_EN": "Password",
    "TRANSLATION_CURRENT": "Hasło"
  },
  {
    "NAME": "PERM",
    "TYPE": "ENUM",
    "MIN": "0",
    "MAX": "3",
    "DETAILS_EN": "None|Operator|Advanced Operator|Administrator",
    "DETAILS_CURRENT": "Brak|Operator|Operator  
Zaawansowany|Administrator",
    "DEFAULT": "3",
    "TRANSLATION_EN": "Access level",
    "TRANSLATION_CURRENT": "Uprawnienia"
  },
  {
    "NAME": "CARD_NUMBER",
    "TYPE": "TEXT",
    "MIN": "",
    "MAX": "",
    "DETAILS_EN": null,
    "DETAILS_CURRENT": null,
    "DEFAULT": "",
    "TRANSLATION_EN": "Card number",
    "TRANSLATION_CURRENT": "Numer karty"
  },
  {
    "NAME": "MODE",
    "TYPE": "ENUM",
    "MIN": "0",
    "MAX": "17",
    "DETAILS_EN": "Weighing|Parts counting  
|Deviations|PGC|Comparator|Vibratory Batcher|Vehicle scale|Dosing  
|Weighing animals|Mass  
control|Density|Formulations|Interactive|PGC|None|SQC|Transactions|  
Formulation orders",
    "DETAILS_CURRENT": "Ważenie|Liczenie  
sztuk|Odchyłki|KTP|Komparator|Dozownik Wibracyjny|Waga  
samochodowa|Dozowanie|Ważenie zwierząt|Kontrola  
masy|Gęstość|Receptury|Interaktywny|KTP|Brak|SQC|Transakcje|Zleceni  
a receptur",
    "DEFAULT": "14",
    "TRANSLATION_EN": "Change working mode",
    "TRANSLATION_CURRENT": "Zmień mod pracy"
  },
  {
    "NAME": "AUTO_MODE",
    "TYPE": "ENUM",
    "MIN": "0",
    "MAX": "1",
    "DETAILS_EN": "No|Yes",

```

```

"DETAILS_CURRENT": "Nie|Tak",
"DEFAULT": "0",
"TRANSLATION_EN": "Automatically",
"TRANSLATION_CURRENT": "Automatycznie"
},
{
  "NAME": "ACTIVE",
  "TYPE": "ENUM",
  "MIN": "0",
  "MAX": "1",
  "DETAILS_EN": "No|Yes",
  "DETAILS_CURRENT": "Nie|Tak",
  "DEFAULT": "1",
  "TRANSLATION_EN": "Active account",
  "TRANSLATION_CURRENT": "Konto aktywne"
},
{
  "NAME": "ID_TRACEABILITY",
  "TYPE": "DB_IDENT",
  "MIN": "",
  "MAX": "",
  "DETAILS_EN": "TRACEABILITY",
  "DETAILS_CURRENT": "TRACEABILITY",
  "DEFAULT": "TRACEABILITY",
  "TRANSLATION_EN": "Traceability process",
  "TRANSLATION_CURRENT": "Proces identyfikacji"
},
{
  "NAME": "SURNAME",
  "TYPE": "TEXT",
  "MIN": "",
  "MAX": "",
  "DETAILS_EN": null,
  "DETAILS_CURRENT": null,
  "DEFAULT": "",
  "TRANSLATION_EN": "Name and surname",
  "TRANSLATION_CURRENT": "Imię i nazwisko"
},
{
  "NAME": "MIN",
  "TYPE": "NUMERIC",
  "MIN": "",
  "MAX": "",
  "DETAILS_EN": null,
  "DETAILS_CURRENT": null,
  "DEFAULT": "",
  "TRANSLATION_EN": "Min",
  "TRANSLATION_CURRENT": "Min"
},
{
  "NAME": "MAX",
  "TYPE": "NUMERIC",
  "MIN": "",
  "MAX": "",
  "DETAILS_EN": null,
  "DETAILS_CURRENT": null,
  "DEFAULT": "",
  "TRANSLATION_EN": "Max",

```



```
        "TRANSLATION_CURRENT": "Max"
    }
1,
    "STS": "OK"
}
```

4. Informacje o tabeli - ilość rekordów

Na przykładzie tabeli Users - Operatorzy

Zapytanie:

```
{  
  "COMMAND": "DBINFO",  
  "TABLE": "USERS",  
  "PARAM": "COUNT"  
}
```

Odpowiedź:

```
{  
  "COMMAND": "DBINFO",  
  "TABLE": "USERS",  
  "COUNT": "4",  
  "STS": "OK"  
}
```

5. Pobranie rekordów

Na przykładzie tabeli Users - Operatorzy

Zapytanie:

```
{
  "COMMAND": "DBREADRANGE",
  "TABLE": "USERS",
  "KEY": "1,4"
}
```

//UWAGA - w pojedynczym zapytaniu o zakres rekordów nie powinno przekraczać się 100 rekordów

Odpowiedź:

```
{
  "COMMAND": "DBREADRANGE",
  "TABLE": "USERS",
  "RECORD": [
    {
      "ID": "1",
      "NAME": "Administrator",
      "CODE": "1",
      "PSW": "1",
      "PERM": "4",
      "CARD_NUMBER": "0001015213022101",
      "MODE": "15",
      "AUTO_MODE": "1",
      "ACTIVE": "2",
      "ID_TRACEABILITY": "0",
      "SURNAME": "",
      "MIN": "0",
      "MAX": "0"
    },
    {
      "ID": "3",
      "NAME": "Standardowy123",
      "CODE": "3333",
      "PSW": "1",
      "PERM": "2",
      "CARD_NUMBER": "0076000114013185",
      "MODE": "15",
      "AUTO_MODE": "1",
      "ACTIVE": "2",
      "ID_TRACEABILITY": "0",
      "SURNAME": "",
      "MIN": "0",
      "MAX": "0"
    },
    {
      "ID": "2",
      "NAME": "Zaawansowany",
      "CODE": "2",
      "PSW": "1",
      "PERM": "3",

```

```

        "CARD_NUMBER": "0005000146024067",
        "MODE": "15",
        "AUTO_MODE": "1",
        "ACTIVE": "2",
        "ID_TRACEABILITY": "0",
        "SURNAME": "",
        "MIN": "0",
        "MAX": "0"
    },
    {
        "ID": "5",
        "NAME": "testowy",
        "CODE": "",
        "PSW": "",
        "PERM": "1",
        "CARD_NUMBER": "",
        "MODE": "15",
        "AUTO_MODE": "1",
        "ACTIVE": "2",
        "ID_TRACEABILITY": "0",
        "SURNAME": "",
        "MIN": "0",
        "MAX": "0"
    }
],
"COUNT": "4",
"STS": "OK"
}

```

6. Edycja rekordów

Na przykładzie tabeli Users - Operatorzy

KEY_COLUMN = NAME lub CODE lub ID (Chyba, że dana kolumna nie występuje w danej tabeli)

Zapytanie:

```
{
  "COMMAND": "DBEDIT",
  "TABLE": "USERS",
  "KEY_COLUMN": "ID",
  "KEY": "5",
  "RECORD": {
    "ID": "5",
    "NAME": "Test",
    "CODE": "",
    "PSW": "",
    "PERM": "1",
    "CARD_NUMBER": "",
    "MODE": "15",
    "AUTO_MODE": "1",
    "ACTIVE": "2",
    "ID_TRACEABILITY": "0",
    "SURNAME": "",
    "MIN": "0",
    "MAX": "0"
  }
}
```

Odpowiedź:

```
{
  "COMMAND": "DBEDITID",
  "TABLE": "USERS",
  "KEY": "5",
  "STS": "OK"
}
```

7. Dodanie nowego rekordu

Na przykładzie tabeli Users - Operatorzy

Zapytanie:

```
{
  "COMMAND": "DBADD",
  "TABLE": "USERS",
  "RECORD": {
    "NAME": "New"
  }
}
```

Odpowiedź:

```
{
  "COMMAND": "DBADD",
  "TABLE": "USERS",
  "RECORD": {
    "ID": "7",
    "NAME": "New",
    "CODE": "",
    "PSW": "",
    "PERM": "1",
    "CARD_NUMBER": "",
    "MODE": "15",
    "AUTO_MODE": "1",
    "ACTIVE": "2",
    "ID_TRACEABILITY": "0",
    "SURNAME": "",
    "MIN": "0",
    "MAX": "0"
  },
  "STS": "OK"
}
```

8. Ustawienie/wybranie rekordu

Na przykładzie tabeli Users - Operatorzy

Wybór możliwy po kolumnach :

KEY_COLUMN = NAME lub CODE lub ID (Chyba, że dana kolumna nie występuje w danej tabeli)

Zapytanie:

```
{
  "COMMAND": "DBSELECT",
  "TABLE": "USERS",
  "KEY": "New",
  "KEY_COLUMN": "NAME"
}
```

Odpowiedź:

```
{
  "COMMAND": "DBSELECT",
  "TABLE": "USERS",
  "STS": "OK"
}
```

9. Usunięcie rekordu

Na przykładzie tabeli Users - Operatorzy

Wybór możliwy po kolumnach :

KEY_COLUMN = NAME lub CODE lub ID (Chyba, że dana kolumna nie występuje w danej tabeli)

Zapytanie:

```
{  
  "COMMAND": "DBDEL",  
  "TABLE": "USERS",  
  "KEY_COLUMN": "ID",  
  "KEY": "7"  
}
```

Odpowiedź:

```
{  
  "COMMAND": "DBDELID",  
  "TABLE": "USERS",  
  "KEY": "7",  
  "STS": "OK"  
}
```


10. Odczyt stanu wagi

Zapytanie:

```
{  
    "COMMAND": "GET_STATUS"  
}
```

Odpowiedź:

```
{  
    "Product": {  
        "id": "",  
        "name": "",  
        "code": "",  
        "guid": "",  
        "count": null  
    },  
    "Operator": {  
        "id": "",  
        "name": "",  
        "code": "",  
        "guid": "",  
        "count": null  
    },  
    "Client": {  
        "id": "",  
        "name": "",  
        "code": "",  
        "guid": "",  
        "count": null  
    },  
    "Warehouse_Dest": {  
        "id": "",  
        "name": "",  
        "code": "",  
        "guid": "",  
        "count": null  
    },  
    "Packages": [  
    ],  
    "Warehouse_Source": {  
        "id": "",  
        "name": "",  
        "code": "",  
        "guid": "",  
        "count": null  
    },  
    "WorkModeCurrent": "Ważenie",  
    "WorkModeEN": "Weighing",  
    "Batch_Number": "",  
    "Lot_Number": "",  
    "Min": 95,  
    "Min2": 0,  
    "Max": 105,  
    "Max2": 0  
}
```

11. Odczyt masy

Zapytanie:

```
{  
  "COMMAND": "GET_MASS"  
}
```

Odpowiedź:

```
{  
  "NetAct": {  
    "Value": "7.2",  
    "Unit": "kg"  
  },  
  "NetCal": {  
    "Value": "7.2",  
    "Unit": "kg"  
  },  
  "Tare": "10",  
  "Range": "",  
  "Max": 3009,  
  "isStab": true,  
  "isTare": true,  
  "isZero": false,  
  "PlatformIndex": 0  
}
```

12. Pobranie pojedynczego rekordu

Zapytanie:

```
{
  "COMMAND": "DBREADID",
  "TABLE": "CLIENTS",
  "KEY": "Radwag",
  "KEY_COLUMN": "NAME"
}
```

Odpowiedź:

```
{
  "COMMAND": "DBREADID",
  "TABLE": "CLIENTS",
  "KEY": "Radwag",
  "KEY_COLUMN": "NAME",
  "RECORD": {
    "ID": "1",
    "NAME": "Radwag",
    "CODE": "1",
    "TAX_ID": "",
    "ADDRESS": "",
    "POSTAL_CODE": "",
    "CITY": "",
    "DISCOUNT": "0",
    "ID_LABEL": "0"
  },
  "STS": "OK"
}
```

13. Tarowanie / Zerowanie

```
{  
  "COMMAND": "TARE"  
}
```

```
{  
  "COMMAND": "TARE"  
  "STS": "OK"  
}
```

```
{  
  "COMMAND": "ZERO"  
}
```

```
{  
  "COMMAND": "ZERO"  
  "STS": "OK"  
}
```

Uwaga : Polecenie powoduje jedynie rozpoczęcie procedury tarowania/zerowania, status określa przyjęcie polecenia do wykonania a nie jest jednoznaczny z rezultatem kroku.

14. Przykład użycia

W zamieszczonych przykładzie zostanie utworzonych kilka rekordów, oraz zostaną one wybrane. Zostanie utworzony operator, kontrahent oraz dwa towary.

Zapytania:

```
{
  "COMMAND": "DBADD",
  "TABLE": "PRODUCTS",
  "RECORD": {
    "NAME": "Sample product 1"
  }
}

{
  "COMMAND": "DBADD",
  "TABLE": "PRODUCTS",
  "RECORD": {
    "NAME": "Sample product 2"
  }
}

{
  "COMMAND": "DBADD",
  "TABLE": "USERS",
  "RECORD": {
    "NAME": "Sample User 1",
    "PSW": "123"
  }
}

{
  "COMMAND": "DBADD",
  "TABLE": "CLIENTS",
  "RECORD": {
    "NAME": "Sample client 1"
  }
}

{
  "COMMAND": "DBSELECT",
  "TABLE": "CLIENTS",
  "KEY": "Sample client 1",
  "KEY_COLUMN": "NAME"
}

{
  "COMMAND": "DBSELECT",
  "TABLE": "USERS",
  "KEY": "Sample User 1",
  "KEY_COLUMN": "NAME"
}

{
  "COMMAND": "DBSELECT",
  "TABLE": "PRODUCTS",
  "KEY": "Sample product 2",
  "KEY_COLUMN": "NAME"
}
```

Pobranie ważeń wykonanych na wadze.

Zapytanie:

```
{
  "COMMAND": "DBINFO",
  "TABLE": "WEIGHMENTS",
  "PARAM": "COUNT"
}
```

Odpowiedz:

```
{
  "COMMAND": "DBINFO",
  "TABLE": "WEIGHMENTS",
  "COUNT": "3",
  "STS": "OK"
}
```

Zapytanie:

```
{
  "COMMAND": "DBREADRANGE",
  "TABLE": "WEIGHMENTS",
  "KEY": "1,3"
}

{
  "COMMAND": "DBREADRANGE",
  "TABLE": "WEIGHMENTS",
  "RECORD": [
    {
      "ID": "5",
      "TIME": "2017-11-21 09:28:01",
      "MASS_CAL": "11 g",
      "MASS_ACT": "11 g",
      "TARE": "0 g",
      "PLATFORM": "1",
      "CHECKWEIGHING": "0",
      "ID_USER": "1",
      "ID_PRODUCT": "3",
      "ID_CLIENT": "2",
      "ID_VEHICLE": "1",
      "ID_PACKAGE": "0",
      "ID_WH_DEST": "0",
      "ID_WH_SOURCE": "2",
      "LOT": "",
      "BATCH": "",
      "COUNTER_ST": "0",
      "COUNTER_USER": "0",
      "REF_MASS": "0 g",
      "UNIT_MASS": "0 g",
      "PRICE": "0 ",
      "VAT": "0",
      "DISCOUNT": "0",
    }
  ]
}
```

```

        "VALUE": "--- ",
        "VAR1": "",
        "VAR2": "",
        "VAR3": "",
        "MIN": "9",
        "MAX": "11",
        "MIN2": "0",
        "MAX2": "0"
    },
    {
        "ID": "3",
        "TIME": "2017-11-21 09:27:00",
        "MASS_CAL": "30 g",
        "MASS_ACT": "30 g",
        "TARE": "0 g",
        "PLATFORM": "1",
        "CHECKWEIGHING": "0",
        "ID_USER": "1",
        "ID_PRODUCT": "2",
        "ID_CLIENT": "2",
        "ID_VEHICLE": "1",
        "ID_PACKAGE": "0",
        "ID_WH_DEST": "0",
        "ID_WH_SOURCE": "2",
        "LOT": "",
        "BATCH": "",
        "COUNTER_ST": "0",
        "COUNTER_USER": "0",
        "REF_MASS": "0 g",
        "UNIT_MASS": "0 g",
        "PRICE": "0 ",
        "VAT": "0",
        "DISCOUNT": "0",
        "VALUE": "--- ",
        "VAR1": "",
        "VAR2": "",
        "VAR3": "",
        "MIN": "28.95",
        "MAX": "33.05",
        "MIN2": "0",
        "MAX2": "0"
    },
    {
        "ID": "1",
        "TIME": "2017-11-21 09:26:18",
        "MASS_CAL": "154 g",
        "MASS_ACT": "154 g",
        "TARE": "0 g",
        "PLATFORM": "1",
        "CHECKWEIGHING": "0",
        "ID_USER": "1",
        "ID_PRODUCT": "1",
        "ID_CLIENT": "2",
        "ID_VEHICLE": "1",
        "ID_PACKAGE": "0",
        "ID_WH_DEST": "0",
        "ID_WH_SOURCE": "2",
        "LOT": "",

```

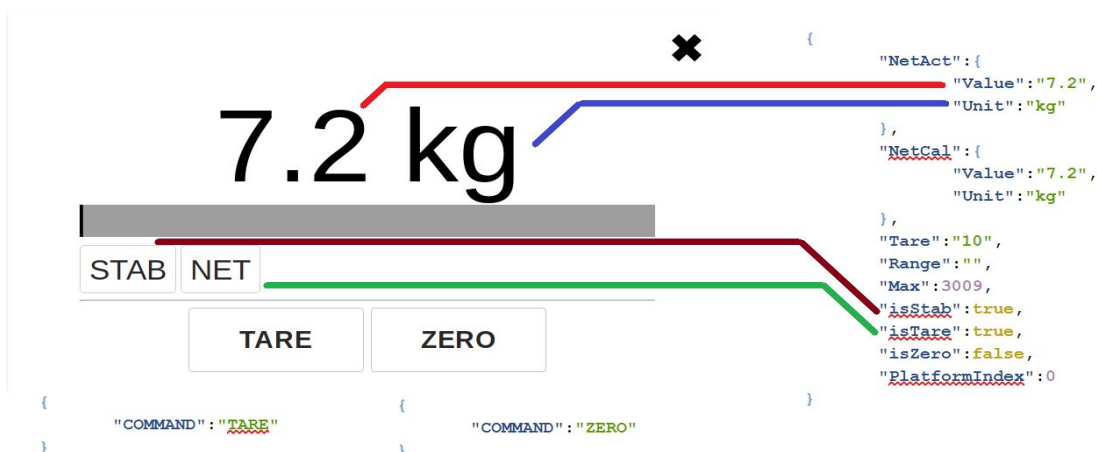
```
        "BATCH": "",
        "COUNTER_ST": "0",
        "COUNTER_USER": "0",
        "REF_MASS": "0 g",
        "UNIT_MASS": "0 g",
        "PRICE": "0 ",
        "VAT": "0",
        "DISCOUNT": "0",
        "VALUE": "--- ",
        "VAR1": "",
        "VAR2": "",
        "VAR3": "",
        "MIN": "151.5",
        "MAX": "168.5",
        "MIN2": "0",
        "MAX2": "0"
    },
    1,
    "COUNT": "3",
    "STS": "OK"
}
```


15. EWI - Extended Web Interface

Moduł umożliwia stworzenie własnej strony www i uruchomienie jej z poziomu terminala wagowego. Prostym przykładem jest wyświetlenie masy otrzymanej z terminala wagowego na stronie html i stworzenie własnego interfejsu dla użytkownika.



Dane do wyświetlenia masy zostały pobrane za pomocą pojedynczego polecenia GET_MASS, zerowanie i tarowanie za pomocą poleceń ZERO i TARE.



YouTube: <http://bit.ly/2BQEIYF>

Github: <https://github.com/Radwag/EWI>



