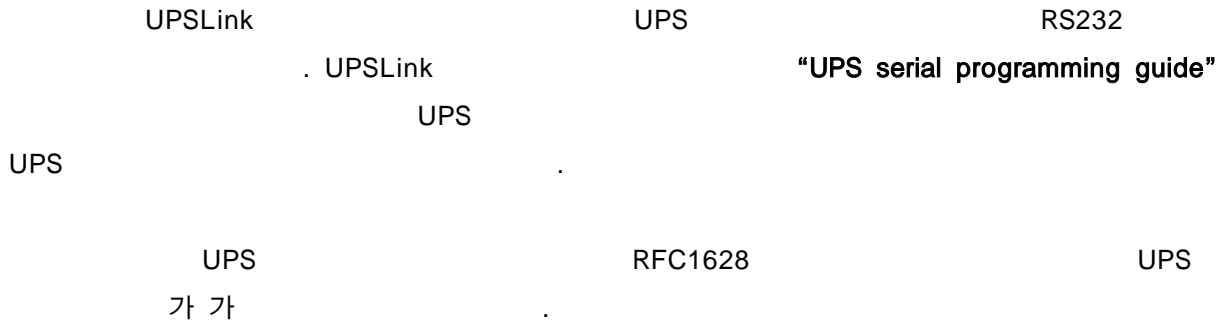


|       |            |
|-------|------------|
| Title | <b>UPS</b> |
| No.   |            |

| Rev.  | Date      | By  | History       |
|-------|-----------|-----|---------------|
| 0.0.1 | 2003-4-18 | UIS | Initial draft |
| 0.0.2 | 2003-5-2  | KCY | revision      |

|      |       |    |
|------|-------|----|
| 1.   | ..... | 3  |
| 1.1. | ..... | 3  |
| 2.   | ..... | 4  |
| 3.   | ..... | 7  |
| 3.1. | ..... | 7  |
| 3.2. | ..... | 7  |
| 4.   | ..... | 12 |

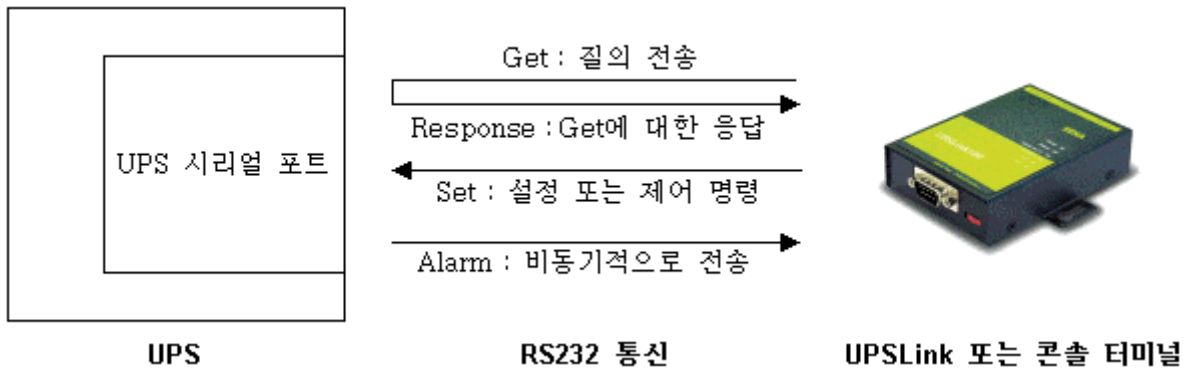
# 1.



## 1.1.

- Get : UPSLink UPS
- Response : UPS '가' UPSLink
- Set : UPSLink UPS
- Alarm : UPS UPSLink

4가



1-1

2.

UPS

RFC1628 UPS MIB 1 1

|                           |                | /  | RFC1628                      |
|---------------------------|----------------|--|------------------------------|
| Manufacturer              | Identification | , 31bytes  | upsIdentManufacturer         |
| Model                     |                | , 63bytes  | upsIdentModel                |
| UPSSoftwareVersion        |                | , 63bytes  | upsIdentUPSSoftwareVersion   |
| AgentSoftwareVersion      |                | , 63bytes  | upsIdentAgentSoftwareVersion |
| IdentName                 |                | , 63bytes  | upsIdentName                 |
| AttachedDevices           |                | , 63bytes  | upsIdentAttachedDevices      |
| BatteryStatus             | Battery        | 1 : unknown<br>2 : batteryNormal<br>3 : batteryLow<br>4 : batteryDepleted                      | upsBatteryStatus             |
| SecondsOnBattery          |                |  | upsSecondsOnBattery          |
| EstimatedMinutesRemaining |                |  | upsEstimatedMinutesRemaining |
| EstimatedChargeRemaining  |                | %(0~100)   | upsEstimatedChargeRemaining  |
| BatteryVoltage            |                | Volts DC   | upsBatteryVoltage            |
| BatteryCurrent            |                | Amp DC   | upsBatteryCurrent            |
| BatteryTemperature        |                |  | upsBatteryTemperature        |
| InputLineBads             | Input          |  | upsInputLineBads             |
| InputNumLines             |                | (1~3)  | upsInputNumLines             |
| InputFrequency1~3         |                | Hz   | upsInputFrequency            |
| InputVoltage1~3           |                | RMS volts  | upsInputVoltage              |
| InputCurrent1~3           |                | RMS amps   | upsInputCurrent              |
| InputTruePower1~3         |                | Watts  | upsInputTruePower            |
| OutputSource              | Output         | 1 : other<br>2 : none<br>3 : normal<br>4 : bypass<br>5 : battery<br>6 : booster<br>7 : reducer | upsOutputSource              |
| OutputFrequency           |                | Hz   | upsOutputFrequency           |
| OutputNumLines            |                | (1~3)  | upsOutputNumLines            |

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|                      |                          |                 |                              |
|----------------------|--------------------------|-----------------|------------------------------|
| OutputVoltage1~3     |                          | RMS volts       | upsOutputVoltage             |
| OutputCurrent1~3     |                          | RMS amps        | upsOutputCurrent             |
| OutputPower1~3       |                          | Watts           | upsOutputPower               |
| OutputPercentLoad1~3 |                          | Percent (0~200) | upsOutputPercentLoad         |
| BypassFrequency      | Bypass                   | Hz              | upsBypassFrequency           |
| BypassNumLines       |                          | (1~3)           | upsBypassNumLines            |
| BypassVoltage1~3     |                          | RMS volts       | upsBypassVoltage             |
| BypassCurrent1~3     |                          | RMS amps        | upsBypassCurrent             |
| BypassPower1~3       |                          | Watts           | upsBypassPower               |
| BatteryBad           | Alarm                    | 1: , 0          | upsAlarmBatteryBad           |
| OnBattery            |                          |                 | upsAlarmOnBattery            |
| LowBattery           |                          |                 | upsAlarmLowBattery           |
| DepletedBattery      |                          |                 | upsAlarmDepletedBattery      |
| TempBad              |                          |                 | upsAlarmTempBad              |
| InputBad             |                          |                 | upsAlarmInputBad             |
| OutputBad            |                          |                 | upsAlarmOutputBad            |
| OutputOverload       |                          |                 | upsAlarmOutputOverload       |
| OnBypass             |                          |                 | upsAlarmOnBypass             |
| BypassBad            |                          |                 | upsAlarmBypassBad            |
| OutputOffAsRequested |                          |                 | upsAlarmOutputOffAsRequested |
| UpsOffAsRequested    |                          |                 | upsAlarmUpsOffAsRequested    |
| ChargerFailed        |                          |                 | upsAlarmChargerFailed        |
| UpsOutputOff         |                          |                 | upsAlarmUpsOutputOff         |
| UpsSystemOff         |                          |                 | upsAlarmUpsSystemOff         |
| FanFailure           |                          |                 | upsAlarmFanFailure           |
| FuseFailure          |                          |                 | upsAlarmFuseFailure          |
| GeneralFault         |                          |                 | upsAlarmGeneralFault         |
| DiagnosticTestFailed |                          |                 | upsAlarmDiagnosticTestFailed |
| CommunicationsLost   |                          |                 | upsAlarmCommunicationsLost   |
| AwaitingPower        | upsAlarmAwaitingPower    |                 |                              |
| ShutdownPending      | upsAlarmShutdownPending  |                 |                              |
| ShutdownImminent     | upsAlarmShutdownImminent |                 |                              |
| TestInProgress       | upsAlarmTestInProgress   |                 |                              |

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|                          |  |  |                                   |
|--------------------------|--|--|-----------------------------------|
| TestId                   | Test                                     | 1 : upsTestNoTestsInitiated<br>2 : upsTestAbortTestInProgress<br>3 : upsTestGeneralSystemsTest<br>4 : upsTestQuickBatteryTest<br>5 : upsTestDeepBatteryCalibration | upsTestId                         |
| ResultsSummary           |  | 1 : donePass<br>2 : doneWarning<br>3 : doneError<br>4 : aborted<br>5 : inProgress<br>6 : noTestsInitiated  | upsTestResultsSummary             |
| ResultsDetail            |  | , 255bytes   | upsTestResultsDetail              |
| ShutdownType             | Control                                  | 1 : output<br>2 : system   | upsShutdownType                   |
| ShutdownAfterDelay       |  | (-1~2147483648)  | upsShutdownAfterDelay             |
| StartupAfterDelay        |  | (-1~2147483648)  | upsStartupAfterDelay              |
| RebootWithDuration       |  | (-1~300)   | upsRebootWithDuration             |
| AutoRestart              |  | 1 : on<br>2 : off  | upsAutoRestart                    |
| ConfigInputVoltage       |  | Configuration  | RMS volts                         |
| ConfigInputFreq          | Hz                                       |  | upsConfigInputFreq                |
| ConfigOutputVoltage      | RMS volts                                |  | upsConfigOutputVoltage            |
| ConfigOutputFreq         | Hz                                       |  | upsConfigOutputFreq               |
| ConfigOutputVA           | Volt - amps                              |  | upsConfigOutputVA                 |
| ConfigOutputPower        | Watts                                    |  | upsConfigOutputPower              |
| LowBattTime              |  |  | upsConfigLowBattTime              |
| AudibleStatus            | 1 : disabled<br>2 : enabled<br>3 : muted |  | upsConfigAudibleStatus            |
| LowVoltageTransferPoint  | RMS volts                                |  | upsConfigLowVoltageTransferPoint  |
| HighVoltageTransferPoint | RMS volts                                |  | upsConfigHighVoltageTransferPoint |

Note :

가 RFC1628 UPS MIB

### 3.

#### 3.1.

| Header | Type   | Length | Command | Data_1 | Delimiter | Data_2 | Delimiter | ..... | Delimiter | Data_n | Footer |
|--------|--------|--------|---------|--------|-----------|--------|-----------|-------|-----------|--------|--------|
| 1byte  | 3bytes | 3bytes | 3bytes  |        |           |        |           |       |           |        | 3bytes |

- Header : 1 '#' (0x23)
- Type : 1.1 가  
 Get : "GET"  
 Response : "RSP"  
 Set : "SET"  
 Alarm : "ALM"
- Length : Command Footer , Header, Type Length  
 '0'  
 가 6 "006", 가 135 "135".
- Command : Command  
 Alarm Command 3 (" ")
- Data\_1, Data\_2,... Data\_n : (Delimiter) n  
 2 가  
 Get 가
- Delimiter : 1 ',' (0x2c)
- Footer : 3 "END"

#### 3.2.

가 Type Command, Data

#### Get

Get 가

Ex) #GET006UIDEND

| Command |                    | RFC1628    |
|---------|--------------------|------------|
| UID     | UPS Identification | upsIdent   |
| BAT     | Battery            | upsBattery |

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|     |               |            |
|-----|---------------|------------|
| INP | Input         | upsInput   |
| OUT | Output        | upsOutput  |
| BYP | Bypass        | upsBypass  |
| ALM | Alarm         | upsAlarm   |
| TST | Test          | upsTest    |
| CTR | Control       | upsControl |
| CFG | Configuration | upsConfig  |

**Response**

Response Get , UPS Data

Ex) #RSP043UIDSena,DEMO,1.0.15,2.0.0,UPSLink,RouterEND

| Command |   | RFC1628    |
|---------|---|------------|
| UID     | GET-UID   | upsIdent   |
|         | Manufacturer, Model, UPSSoftwareVersion, AgentSoftwareVersion, IdentName, AttachedDevices   |            |
| BAT     | GET-BAT   | upsBattery |
|         | BatteryStatus, SecondsOnBattery, EstimatedMinutesRemaining, EstimatedChargeRemaining, BatteryVoltage, BatteryCurrent, BatteryTemperature  |            |
| INP     | GET-INP   | upsInput   |
|         | InputLineBads, InputNumLines, InputFrequency1, InputVoltage1, InputCurrent1, InputTruePower1, InputFrequency2, InputVoltage2, InputCurrent2, InputTruePower2, InputFrequency3, InputVoltage3, InputCurrent3, InputTruePower3                        |            |
| OUT     | GET-OUT   | upsOutput  |
|         | OutputSource, OutputFrequency, OutputNumLines, OutputVoltage1, OutputCurrent1, OutputPower1, OutputPercentLoad1, OutputVoltage2, OutputCurrent2, OutputPower2, OutputPercentLoad2, OutputVoltage3, OutputCurrent3, OutputPower3, OutputPercentLoad3 |            |
| BYP     | GET-BYP   | upsBypass  |
|         | BypassFrequency, BypassNumLines, BypassVoltage1, BypassCurrent1, BypassPower1, BypassVoltage2, BypassCurrent2, BypassPower2, BypassVoltage3, BypassCurrent3, BypassPower3   |            |



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|     |  |            |
|-----|--|------------|
| ALM | GET-ALM  | upsAlarm   |
|     | BatteryBad, OnBattery, LowBattery, DepletedBattery, TempBad, InputBad, OutputBad, OutputOverload, OnBypass, BypassBad, OutputOffAsRequested, UpsOffAsRequested, ChargerFailed, UpsOutputOff, UpsSystemOff, FanFailure, FuseFailure, GeneralFault, DiagnosticTestFailed, CommunicationsLost, AwaitingPower, ShutdownPending, ShutdownImminent, TestInProgress |            |
| TST | GET-TST  | upsTest    |
|     | TestId, ResultsSummary, ResultsDetail  |            |
| CTR | GET-CTR  | upsControl |
|     | ShutdownType, ShutdownAfterDelay, StartupAfterDelay, RebootWithDuration, AutoRestart   |            |
| CFG | GET-CFG  | upsConfig  |
|     | ConfigInputVoltage, ConfigInputFreq, ConfigOutputVoltage, ConfigOutputFreq, ConfigOutputVA, ConfigOutputPower, LowBattTime, AudibleStatus, LowVoltageTransferPoint, HighVoltageTransferPoint   |            |

**Set**

UPS

가

Ex) #SET012NAMMy UPSEND

| Command |                    | RFC1628                 |
|---------|--------------------|-------------------------|
| NAM     | UPS                | upsIdentName            |
|         | IdentName          |                         |
| ATD     | UPS                | upsIdentAttachedDevices |
|         | AttachedDevices    |                         |
| TID     |                    | upsTestId               |
|         | TestId             |                         |
| SDT     |                    | upsShutdownType         |
|         | ShutdownType       |                         |
| ARS     |                    | upsAutoRestart          |
|         | AutoRestart        |                         |
| SDA     | UPS                | upsShutdownAfterDelay   |
|         | ShutdownAfterDelay |                         |

|     |                          |                                   |
|-----|--------------------------|-----------------------------------|
| SUA | UPS                      | upsStartupAfterDelay              |
|     | StartupAfterDelay        |                                   |
| RWD | UPS                      | upsRebootWithDuration             |
|     | RebootWithDuration       |                                   |
| CIV |                          | upsConfigInputVoltage             |
|     | ConfigInputVoltage       |                                   |
| CIF |                          | upsConfigInputFreq                |
|     | ConfigInputFreq          |                                   |
| COV |                          | upsConfigOutputVoltage            |
|     | ConfigOutputVoltage      |                                   |
| COF |                          | upsConfigOutputFreq               |
|     | ConfigOutputFreq         |                                   |
| CLB |                          | UpsConfigConfigLowBattTime        |
|     | LowBattTime              |                                   |
| CAS | 가                        | upsConfigAudibleStatus            |
|     | AudibleStatus            |                                   |
| CLT |                          | UpsConfigLowVoltageTransferPoint  |
|     | LowVoltageTransferPoint  |                                   |
| CHT |                          | UpsConfigHighVoltageTransferPoint |
|     | HighVoltageTransferPoint |                                   |

**Alarm**

UPS 가

UPSLink

Ex) #ALM011PRE2,3,7END

| Command |   |
|---------|---|
| PRE     | 가 |
| REL     | 가 |

|   |                 |    |               |
|---|-----------------|----|---------------|
| 1 | BatteryBad      | 13 | ChargerFailed |
| 2 | OnBattery       | 14 | UpsOutputOff  |
| 3 | LowBattery      | 15 | UpsSystemOff  |
| 4 | DepletedBattery | 16 | FanFailure    |

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|    |                      |    |                      |
|----|----------------------|----|----------------------|
| 5  | TempBad              | 17 | FuseFailure          |
| 6  | InputBad             | 18 | GeneralFault         |
| 7  | OutputBad            | 19 | DiagnosticTestFailed |
| 8  | OutputOverload       | 20 | CommunicationsLost   |
| 9  | OnBypass             | 21 | AwaitingPower        |
| 10 | BypassBad            | 22 | ShutdownPending      |
| 11 | OutputOffAsRequested | 23 | ShutdownImminent     |
| 12 | UpsOffAsRequested    | 24 | TestInProgress       |



UPS

#RSP061TST3,1,General system test has been finished with no errorEND

: 3,1,General system test has been finished with no error

3 - TestId : upsTestGeneralSystemsTest

1 - ResultsSummary : donePass

General system test has been finished with no error - ResultsDetail

UPS "Router"

#SET012ATDRouterEND

#SET007TID4END

600 UPS

#SET009RWD600END

63Hz

#SET008CIF63END

가

#SET007CAS2END

UPS LowBattery OnBypass 가

#ALM009PRE3,9END

UPS LowBattery OnBypass 가

#ALM009REL3,9END