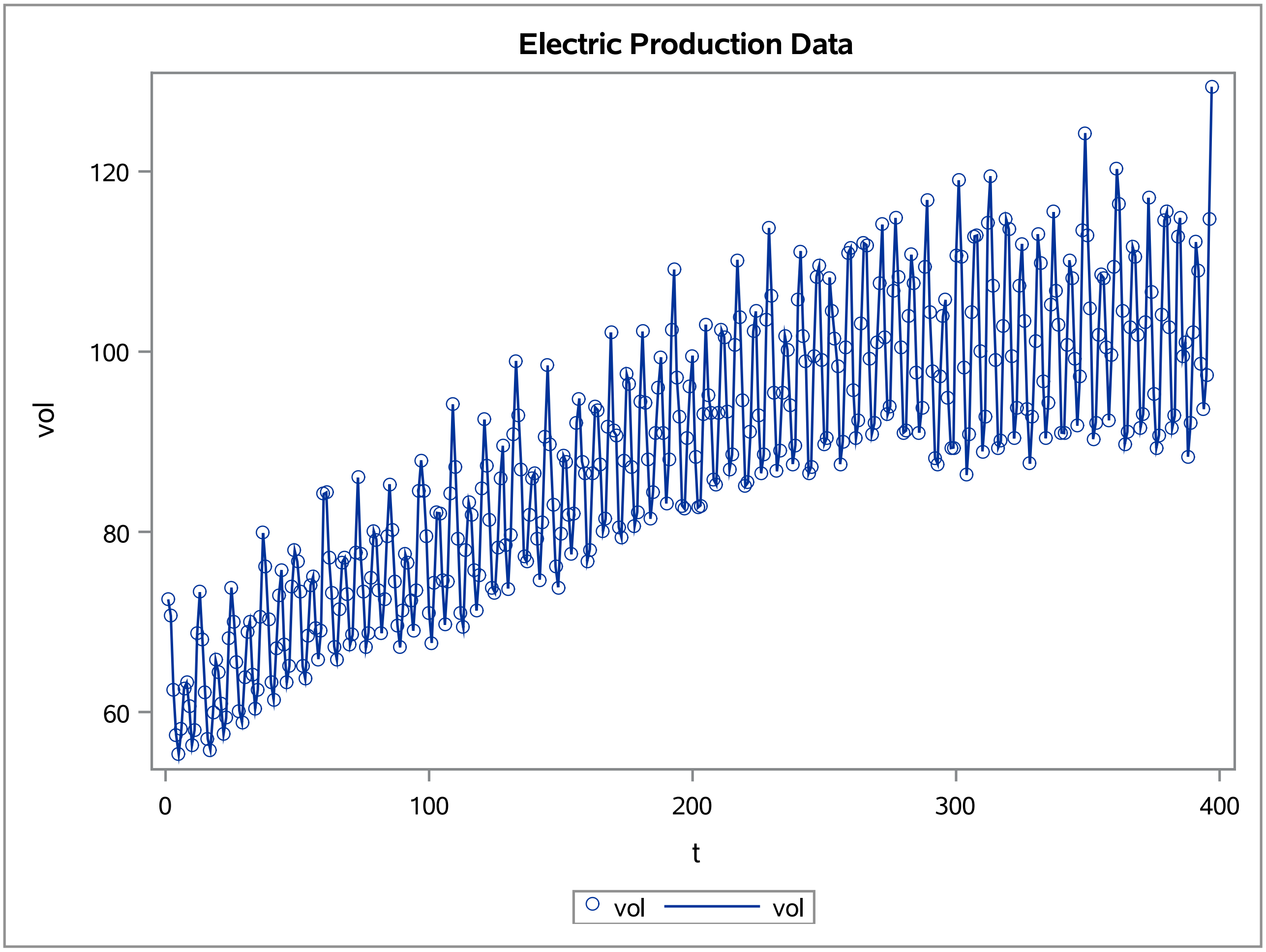
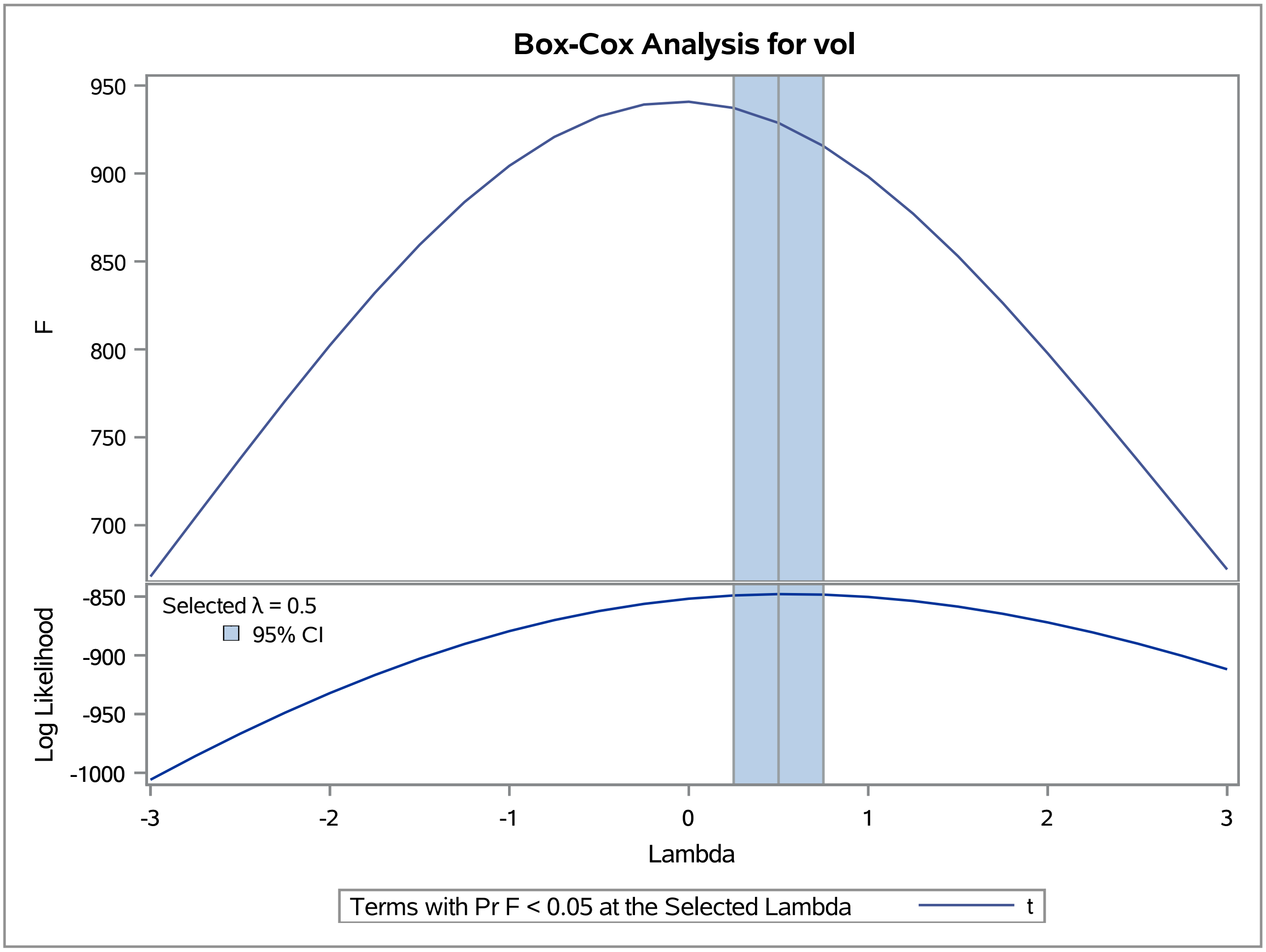


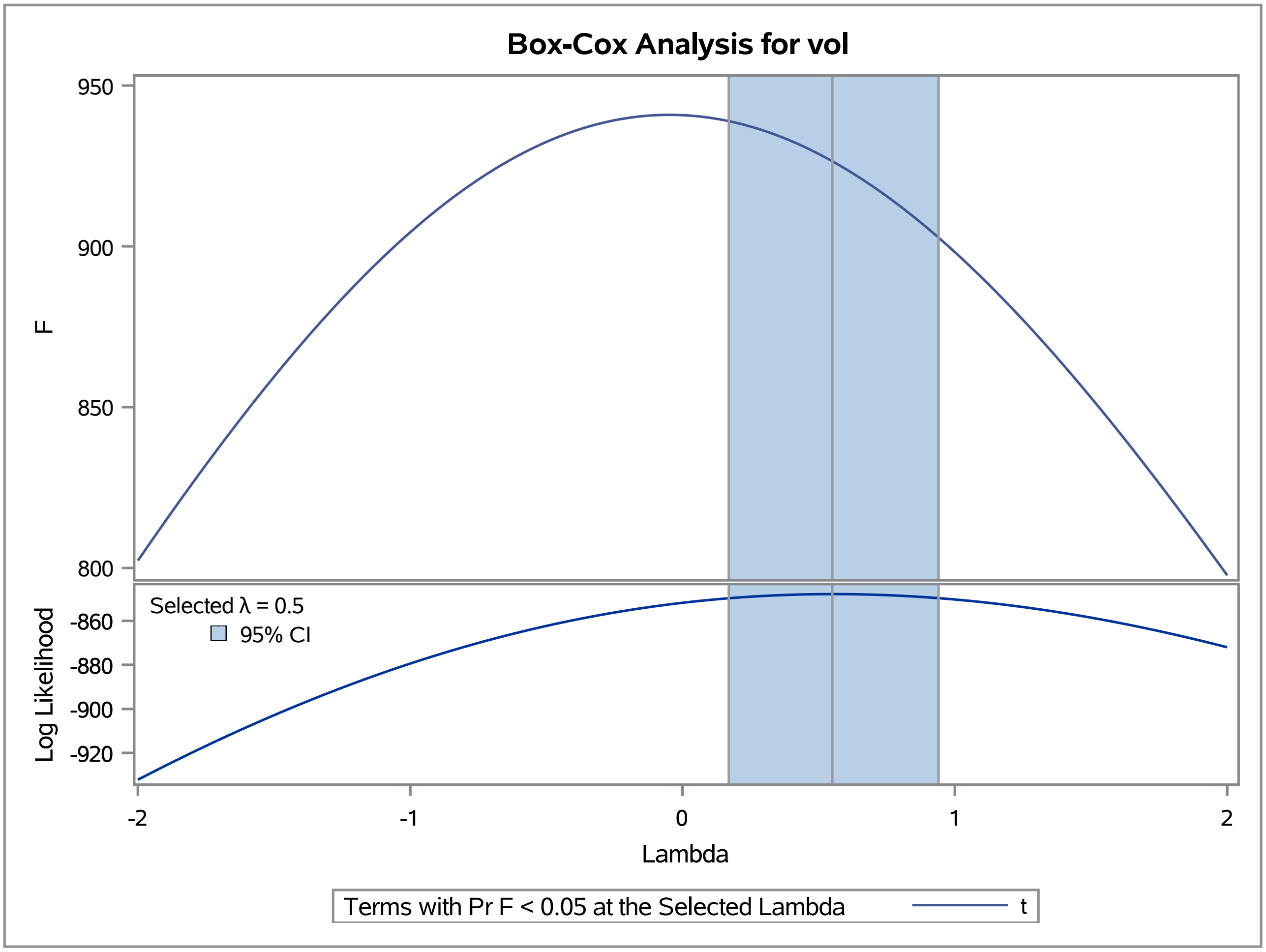
Electric Production Data
vol
120
100
80
60
0
100
200
300
400
t
vol
vol

# Electric Production Data
## Defaults no graphs

### The TRANSREG Procedure



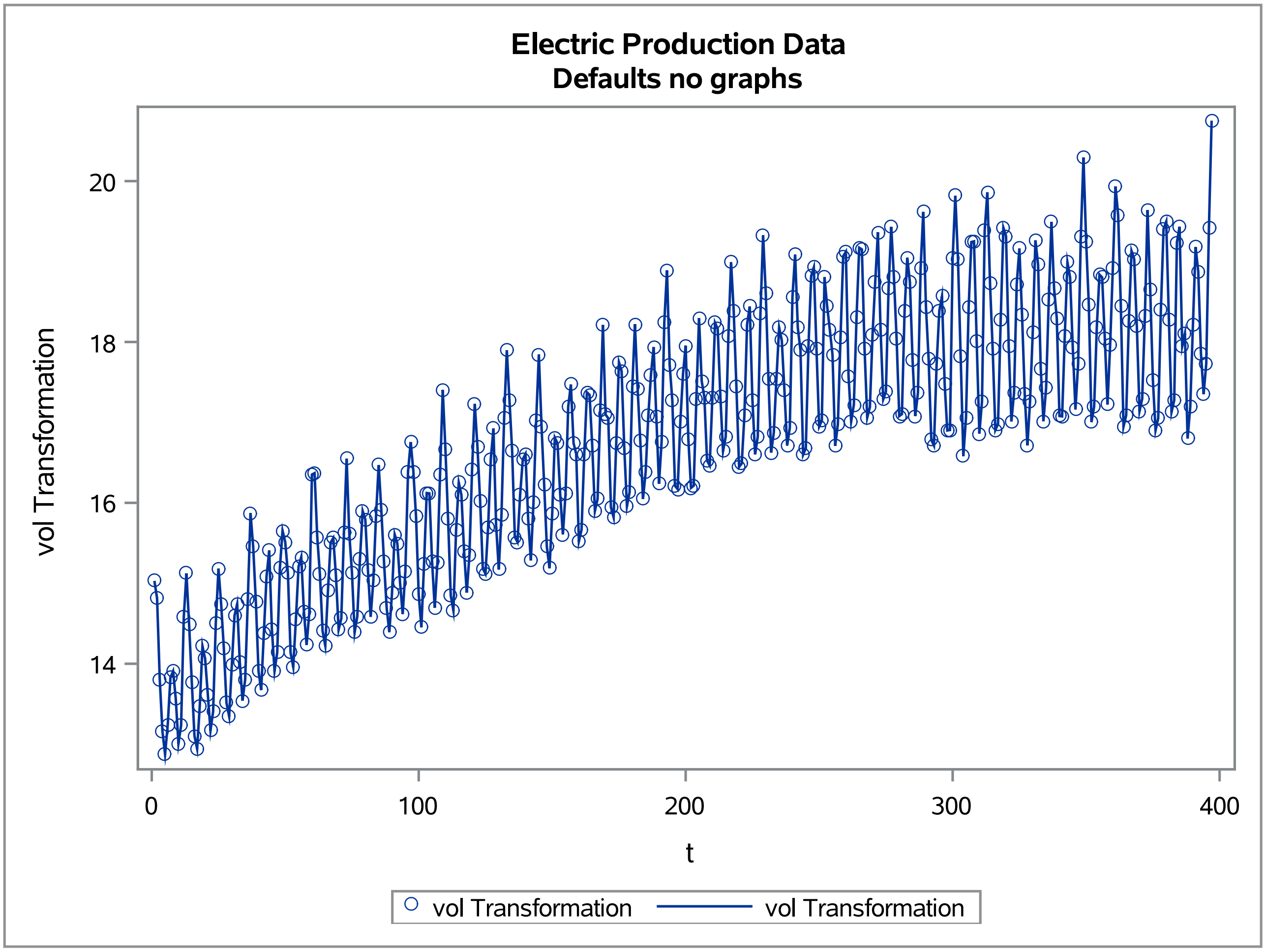
## The TRANSREG Procedure



# Electric Production Data
# Defaults no graphs

## The TRANSREG Procedure

| Model Statement Specification Details | | | | |
|---|---|---|---|---|
| **Type** | **DF** | **Variable** | **Description** | **Value** |
| **Dep** | 1 | BoxCox(vol) | Lambda Used | 0.5 |
| | | | Lambda | 0.55 |
| | | | Log Likelihood | -847.9 |
| | | | Conv. Lambda | 0.5 |
| | | | Conv. Lambda LL | -847.9 |
| | | | CI Limit | -849.8 |
| | | | Alpha | 0.05 |
| | | | Options | Convenient Lambda Used |
| **Ind** | 1 | Identity(t) | DF | 1 |

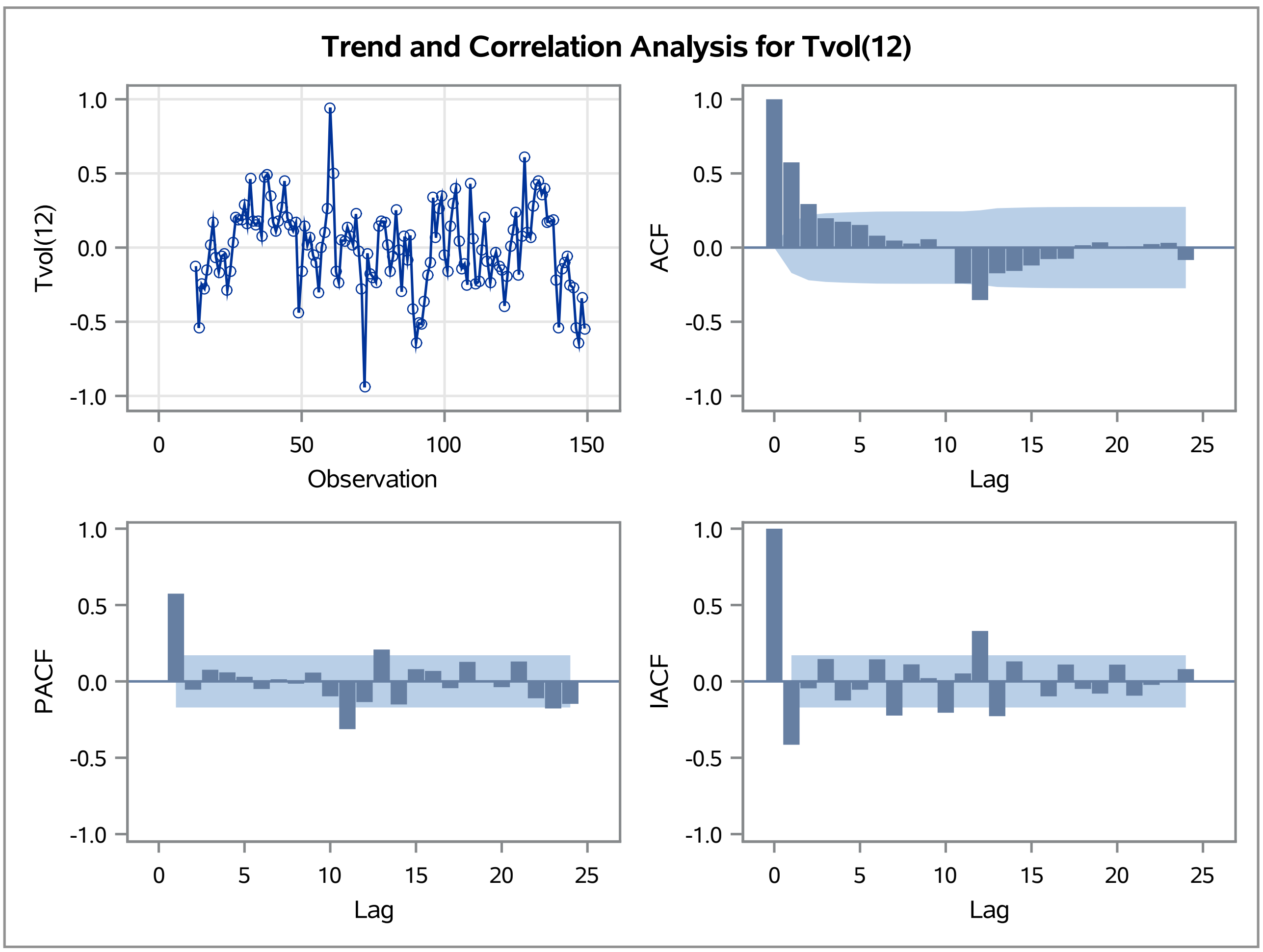

Electric Production Data
Defaults no graphs
vol Transformation
20
18
16
14
0
100
200
300
400
t
vol Transformation
vol Transformation

# Electric Production Data
# Defaults no graphs

## The ARIMA Procedure

| Name of Variable = Tvol | |
|---|---|
| **Period(s) of Differencing** | 12 |
| **Mean of Working Series** | 0 |
| **Standard Deviation** | 0.282543 |
| **Number of Observations** | 137 |
| **Observation(s) eliminated by differencing** | 12 |

| Autocorrelation Check for White Noise | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **To Lag** | **Chi-Square** | **DF** | **Pr > ChiSq** | **Autocorrelations** | | | | | |
| **6** | 72.58 | 6 | <.0001 | 0.575 | 0.294 | 0.198 | 0.174 | 0.153 | 0.080 |
| **12** | 101.37 | 12 | <.0001 | 0.048 | 0.027 | 0.057 | -0.005 | -0.241 | -0.354 |
| **18** | 113.96 | 18 | <.0001 | -0.173 | -0.157 | -0.121 | -0.078 | -0.075 | 0.016 |
| **24** | 115.62 | 24 | <.0001 | 0.035 | 0.002 | 0.008 | 0.024 | 0.032 | -0.084 |




**Warning:** The model defined by the new estimates is unstable. The iteration process has been terminated.

**Warning:** Estimates may not have converged.

# Electric Production Data
# Defaults no graphs

## The ARIMA Procedure

| ARIMA Estimation Optimization Summary | |
|---|---|
| **Estimation Method** | Maximum Likelihood |
| **Parameters Estimated** | 3 |
| **Termination Criteria** | Maximum Relative Change in Estimates |
| **Iteration Stopping Value** | 0.001 |
| **Criteria Value** | 0.133222 |
| **Maximum Absolute Value of Gradient** | 0.067105 |
| **R-Square Change from Last Iteration** | 0.021103 |
| **Objective Function** | Log Gaussian Likelihood |
| **Objective Function Value** | 31.74958 |
| **Marquardt's Lambda Coefficient** | 1E-7 |
| **Numerical Derivative Perturbation Delta** | 0.001 |
| **Iterations** | 12 |
| **Warning Message** | Estimates may not have converged. |

| Maximum Likelihood Estimation | | | | | |
|---|---|---|---|---|---|
| Parameter | Estimate | Standard Error | t Value | Approx Pr > \|t\| | Lag |
| **MA1,1** | 0.16139 | 0.08956 | 1.80 | 0.0715 | 11 |
| **MA1,2** | 0.83861 | 0.12465 | 6.73 | <.0001 | 12 |
| **AR1,1** | 0.61075 | 0.07107 | 8.59 | <.0001 | 1 |

| | |
|---|---|
| **Variance Estimate** | 0.033122 |
| **Std Error Estimate** | 0.181994 |
| **AIC** | -57.4992 |
| **SBC** | -48.7392 |
| **Number of Residuals** | 137 |

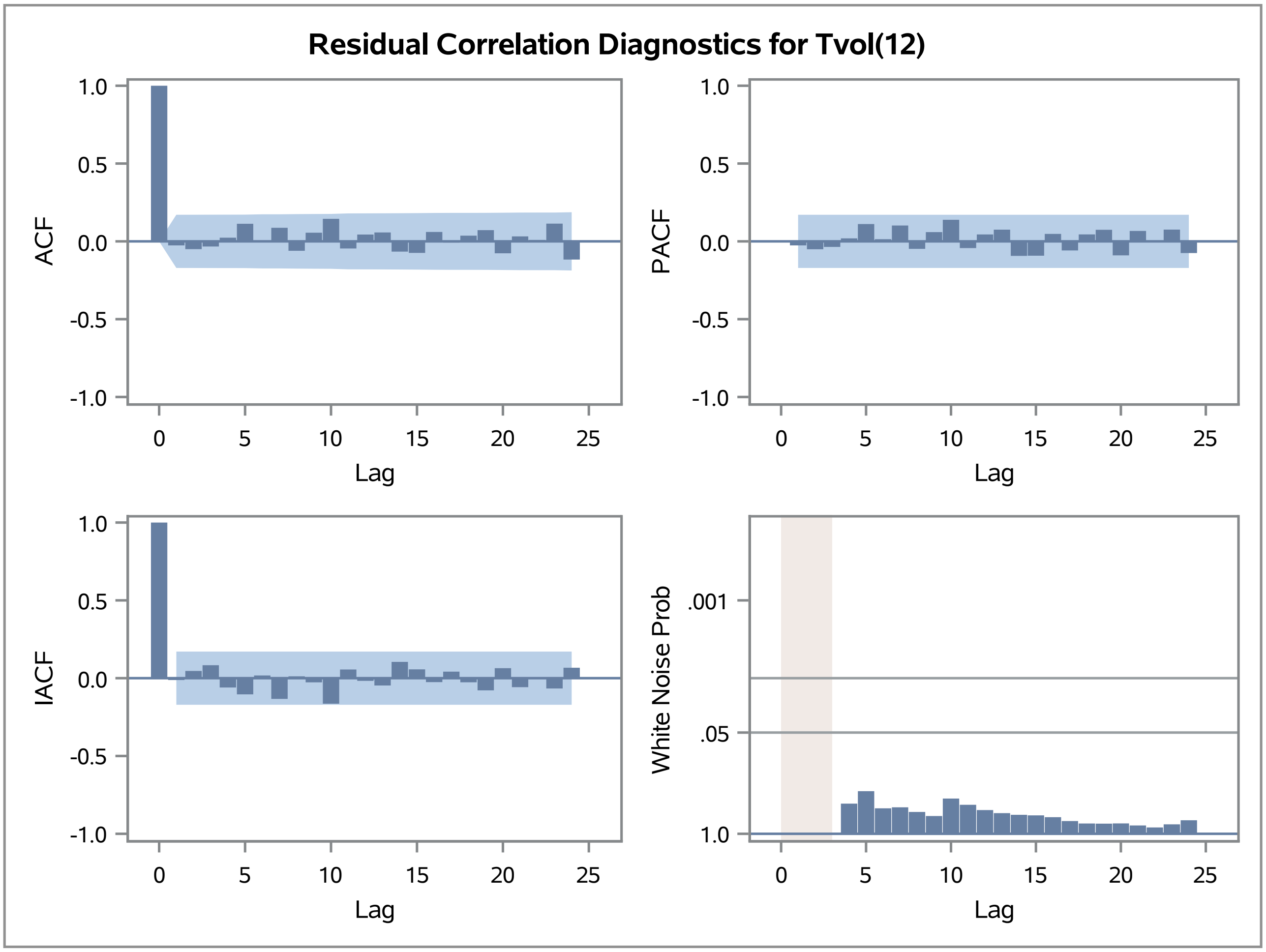
| Correlations of Parameter Estimates | | | |
|---|---|---|---|
| Parameter | MA1,1 | MA1,2 | AR1,1 |
| **MA1,1** | 1.000 | 0.452 | -0.370 |
| **MA1,2** | 0.452 | 1.000 | -0.350 |
| **AR1,1** | -0.370 | -0.350 | 1.000 |

# Electric Production Data
## Defaults no graphs

### The ARIMA Procedure

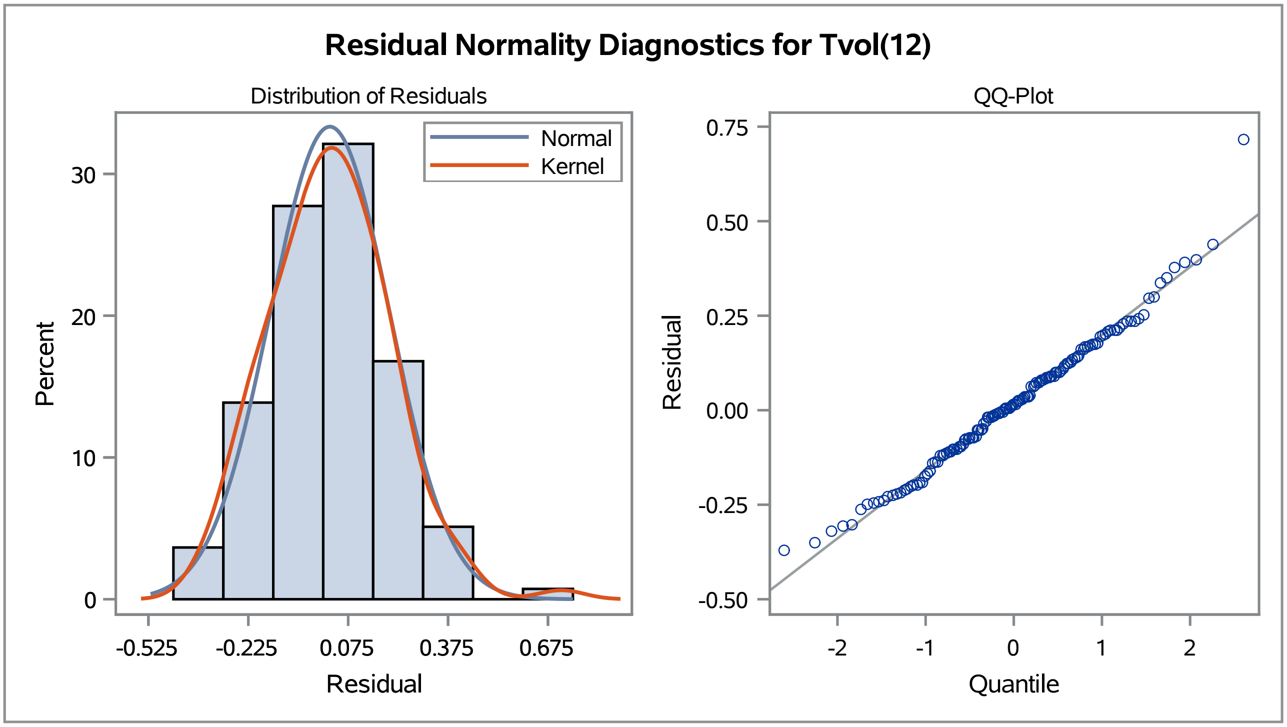
**Autocorrelation Check of Residuals**

| To Lag | Chi-Square | DF | Pr > ChiSq | Autocorrelations | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 2.95 | 3 | 0.3992 | -0.012 | -0.034 | -0.017 | 0.041 | 0.129 | 0.023 |
| 12 | 10.16 | 9 | 0.3374 | 0.102 | -0.043 | 0.073 | 0.161 | -0.026 | 0.064 |
| 18 | 13.25 | 15 | 0.5827 | 0.076 | -0.044 | -0.054 | 0.079 | 0.011 | 0.053 |
| 24 | 19.94 | 21 | 0.5254 | 0.087 | -0.061 | 0.049 | 0.024 | 0.127 | -0.099 |



# Electric Production Data
## Defaults no graphs

### The ARIMA Procedure

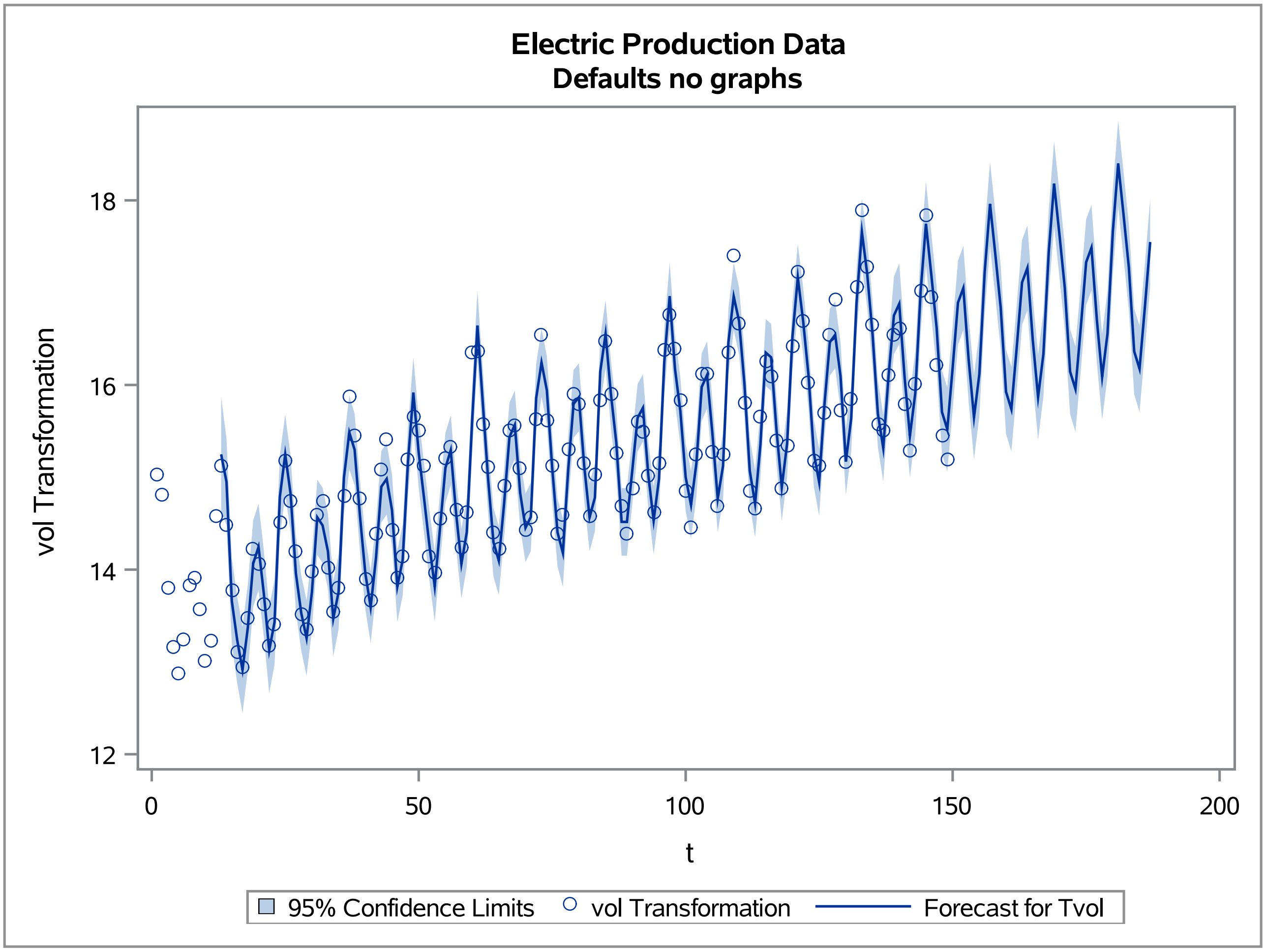



| Model for variable Tvol | |
|---|---|
| **Data have been centered by subtracting the value** | 0.218824 |
| **Period(s) of Differencing** | 12 |

**No mean term in this model.**

| Autoregressive Factors | |
|---|---|
| **Factor 1:** | 1 - 0.61075 B**(1) |

| Moving Average Factors | |
|---|---|
| **Factor 1:** | 1 - 0.16139 B**(11) - 0.83861 B**(12) |


Electric Production Data
Defaults no graphs
vol Transformation
18
16
14
12
0
50
100
150
200
t
95% Confidence Limits
vol Transformation
Forecast for Tvol