

Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B10 P20**

Date: 05.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **15.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 1,952.4 [RPM] lo: 2.9 [A] kv: 132.7 [RPM/V] kn: -13.21 [RPM/A] kT: 7.56 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
14.9	10.0	1,858.2	149.0	104.9	53.9	70.39
14.9	11.0	1,845.0	163.9	118.8	61.5	72.50
14.9	12.0	1,831.8	178.8	132.6	69.1	74.13
14.9	13.0	1,818.6	193.7	145.9	76.6	75.31
14.9	14.0	1,805.4	208.6	159.2	84.2	76.31
14.9	15.0	1,792.1	223.5	172.3	91.8	77.08
14.9	16.0	1,778.9	238.4	185.0	99.3	77.59
14.9	17.0	1,765.7	253.3	197.7	106.9	78.03
14.9	18.0	1,752.5	268.2	209.9	114.4	78.28
14.9	19.0	1,739.3	283.1	222.2	122.0	78.49
14.9	20.0	1,726.1	298.0	234.3	129.6	78.61
14.9	21.0	1,712.9	312.9	245.9	137.1	78.59
14.9	22.0	1,699.7	327.8	257.6	144.7	78.57
14.9	23.0	1,686.5	342.7	269.0	152.3	78.49
14.9	24.0	1,673.2	357.6	280.0	159.8	78.30
14.9	25.0	1,660.0	372.5	291.0	167.4	78.12
14.9	26.0	1,646.8	387.4	301.8	175.0	77.90
14.9	27.0	1,633.6	402.3	312.2	182.5	77.60
14.9	28.0	1,620.4	417.2	322.6	190.1	77.32
14.9	29.0	1,607.2	432.1	332.6	197.6	76.97
14.8	30.0	1,594.0	444.0	342.5	205.2	77.15
14.8	31.0	1,580.8	458.8	352.3	212.8	76.78
14.8	32.0	1,567.5	473.6	361.6	220.3	76.36
14.8	33.0	1,554.3	488.4	370.9	227.9	75.95
14.8	34.0	1,541.1	503.2	380.1	235.5	75.53
14.8	35.0	1,527.9	518.0	388.8	243.0	75.06

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
14.8	36.0	1,514.7	532.8	397.5	250.6	74.61
14.8	37.0	1,501.5	547.6	406.0	258.2	74.14
14.8	38.0	1,488.3	562.4	414.1	265.7	73.63
14.8	39.0	1,475.1	577.2	422.2	273.3	73.14
14.8	40.0	1,461.9	592.0	430.0	280.9	72.64
14.8	41.0	1,448.6	606.8	437.5	288.4	72.10
14.8	42.0	1,435.4	621.6	444.9	296.0	71.58
14.8	43.0	1,422.2	636.4	452.0	303.5	71.03
14.8	44.0	1,409.0	651.2	459.0	311.1	70.49
14.8	45.0	1,395.8	666.0	465.8	318.7	69.95
14.8	46.0	1,382.6	680.8	472.3	326.2	69.37
14.8	47.0	1,369.4	695.6	478.7	333.8	68.82
14.8	48.0	1,356.2	710.4	484.9	341.4	68.25
14.8	49.0	1,343.0	725.2	490.7	348.9	67.66
14.7	50.0	1,329.7	735.0	496.4	356.5	67.54
14.7	51.0	1,316.5	749.7	502.0	364.1	66.95
14.7	52.0	1,303.3	764.4	507.2	371.6	66.35
14.7	53.0	1,290.1	779.1	512.3	379.2	65.75
14.7	54.0	1,276.9	793.8	517.2	386.8	65.16
14.7	55.0	1,263.7	808.5	521.8	394.3	64.54
14.7	56.0	1,250.5	823.2	526.3	401.9	63.93
14.7	57.0	1,237.3	837.9	530.5	409.4	63.31
14.7	58.0	1,224.0	852.6	534.5	417.0	62.69
14.7	59.0	1,210.8	867.3	538.4	424.6	62.07
14.7	60.0	1,197.6	882.0	541.9	432.1	61.44
14.7	61.0	1,184.4	896.7	545.4	439.7	60.82
14.7	62.0	1,171.2	911.4	548.6	447.3	60.19
14.7	63.0	1,158.0	926.1	551.5	454.8	59.55
14.7	64.0	1,144.8	940.8	554.3	462.4	58.92
14.7	65.0	1,131.6	955.5	557.0	470.0	58.29
14.7	66.0	1,118.4	970.2	559.2	477.5	57.64
14.7	67.0	1,105.1	984.9	561.4	485.1	57.00
14.7	68.0	1,091.9	999.6	563.3	492.6	56.35
14.7	69.0	1,078.7	1,014.3	565.0	500.2	55.71
14.6	70.0	1,065.5	1,022.0	566.6	507.8	55.44
14.6	71.0	1,052.3	1,036.6	567.8	515.3	54.78
14.6	72.0	1,039.1	1,051.2	569.0	522.9	54.13
14.6	73.0	1,025.9	1,065.8	569.9	530.5	53.47
14.6	74.0	1,012.7	1,080.4	570.5	538.0	52.81

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
14.6	75.0	999.5	1,095.0	571.1	545.6	52.15
14.6	76.0	986.2	1,109.6	571.3	553.2	51.49
14.6	77.0	973.0	1,124.2	571.3	560.7	50.82
14.6	78.0	959.8	1,138.8	571.2	568.3	50.16
14.6	79.0	946.6	1,153.4	570.9	575.9	49.50
14.6	80.0	933.4	1,168.0	570.2	583.4	48.82
14.6	81.0	920.2	1,182.6	569.5	591.0	48.16
14.6	82.0	907.0	1,197.2	568.5	598.5	47.48
14.6	83.0	893.8	1,211.8	567.3	606.1	46.81
14.6	84.0	880.5	1,226.4	565.9	613.7	46.14
14.6	85.0	867.3	1,241.0	564.2	621.2	45.46

nl = rpm with no load

lo = current with no load

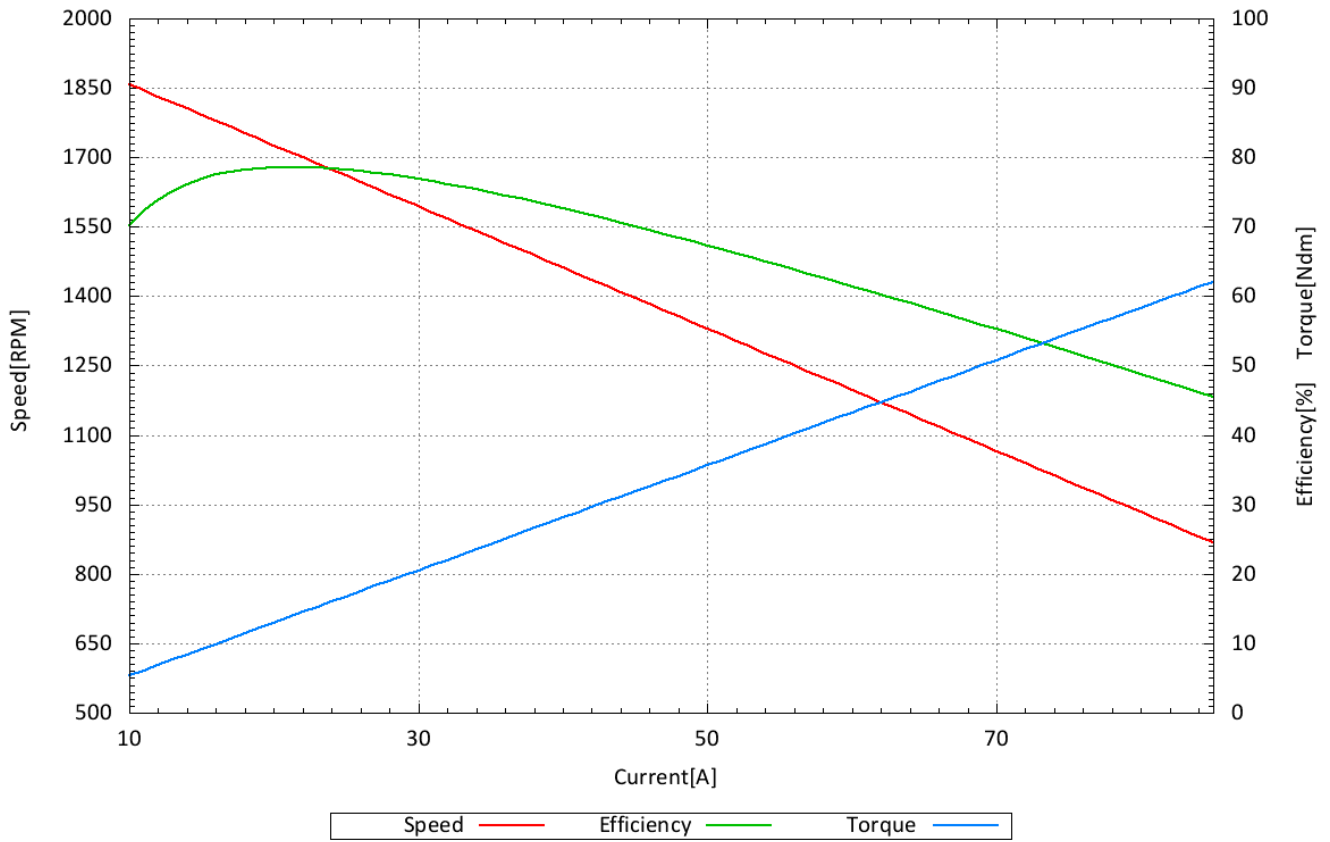
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP430_50_B10_P20_15V_05032024



Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B10 P20**

Date: 05.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **20.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 2,599.6 [RPM] lo: 1.6 [A] kv: 131.2 [RPM/V] kn: -15.05 [RPM/A] kT: 7.46 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
19.9	10.0	2,473.0	199.0	162.6	62.8	81.73
19.9	11.0	2,457.9	218.9	180.7	70.2	82.54
19.9	12.0	2,442.9	238.8	198.8	77.7	83.24
19.9	13.0	2,427.8	258.7	216.6	85.2	83.73
19.9	14.0	2,412.8	278.6	234.0	92.6	83.98
19.9	15.0	2,397.7	298.5	251.3	100.1	84.20
19.9	16.0	2,382.7	318.4	268.2	107.5	84.24
19.9	17.0	2,367.6	338.3	285.1	115.0	84.28
19.8	18.0	2,352.6	356.4	301.8	122.5	84.68
19.8	19.0	2,337.5	376.2	318.0	129.9	84.52
19.8	20.0	2,322.5	396.0	334.2	137.4	84.39
19.8	21.0	2,307.4	415.8	350.1	144.9	84.20
19.8	22.0	2,292.4	435.6	365.6	152.3	83.93
19.8	23.0	2,277.3	455.4	381.1	159.8	83.68
19.8	24.0	2,262.2	475.2	396.1	167.2	83.35
19.8	25.0	2,247.2	495.0	411.1	174.7	83.05
19.8	26.0	2,232.1	514.8	425.9	182.2	82.73
19.8	27.0	2,217.1	534.6	440.2	189.6	82.34
19.8	28.0	2,202.0	554.4	454.5	197.1	81.98
19.7	29.0	2,187.0	571.3	468.6	204.6	82.02
19.7	30.0	2,171.9	591.0	482.2	212.0	81.59
19.7	31.0	2,156.9	610.7	495.8	219.5	81.18
19.7	32.0	2,141.8	630.4	509.1	227.0	80.76
19.7	33.0	2,126.8	650.1	522.1	234.4	80.30
19.7	34.0	2,111.7	669.8	534.9	241.9	79.86
19.7	35.0	2,096.7	689.5	547.4	249.3	79.39

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
19.7	36.0	2,081.6	709.2	559.8	256.8	78.93
19.7	37.0	2,066.6	728.9	572.0	264.3	78.47
19.7	38.0	2,051.5	748.6	583.7	271.7	77.97
19.7	39.0	2,036.5	768.3	595.4	279.2	77.50
19.6	40.0	2,021.4	784.0	606.9	286.7	77.41
19.6	41.0	2,006.4	803.6	617.9	294.1	76.90
19.6	42.0	1,991.3	823.2	628.9	301.6	76.40
19.6	43.0	1,976.3	842.8	639.5	309.0	75.88
19.6	44.0	1,961.2	862.4	650.0	316.5	75.37
19.6	45.0	1,946.1	882.0	660.3	324.0	74.86
19.6	46.0	1,931.1	901.6	670.2	331.4	74.33
19.6	47.0	1,916.0	921.2	680.0	338.9	73.81
19.6	48.0	1,901.0	940.8	689.6	346.4	73.30
19.6	49.0	1,885.9	960.4	698.7	353.8	72.75
19.6	50.0	1,870.9	980.0	707.9	361.3	72.23
19.6	51.0	1,855.8	999.6	716.5	368.7	71.68
19.5	52.0	1,840.8	1,014.0	725.2	376.2	71.52
19.5	53.0	1,825.7	1,033.5	733.6	383.7	70.98
19.5	54.0	1,810.7	1,053.0	741.6	391.1	70.43
19.5	55.0	1,795.6	1,072.5	749.5	398.6	69.88
19.5	56.0	1,780.6	1,092.0	757.2	406.1	69.34
19.5	57.0	1,765.5	1,111.5	764.5	413.5	68.78
19.5	58.0	1,750.5	1,131.0	771.7	421.0	68.24
19.5	59.0	1,735.4	1,150.5	778.7	428.5	67.68
19.5	60.0	1,720.4	1,170.0	785.3	435.9	67.12
19.5	61.0	1,705.3	1,189.5	791.8	443.4	66.57
19.5	62.0	1,690.3	1,209.0	798.0	450.8	66.00
19.4	63.0	1,675.2	1,222.2	804.0	458.3	65.78
19.4	64.0	1,660.2	1,241.6	809.8	465.8	65.22
19.4	65.0	1,645.1	1,261.0	815.2	473.2	64.65
19.4	66.0	1,630.1	1,280.4	820.6	480.7	64.09
19.4	67.0	1,615.0	1,299.8	825.7	488.2	63.52
19.4	68.0	1,599.9	1,319.2	830.3	495.6	62.94
19.4	69.0	1,584.9	1,338.6	835.0	503.1	62.38
19.4	70.0	1,569.8	1,358.0	839.2	510.5	61.80
19.4	71.0	1,554.8	1,377.4	843.4	518.0	61.23
19.4	72.0	1,539.7	1,396.8	847.3	525.5	60.66
19.4	73.0	1,524.7	1,416.2	850.9	532.9	60.08
19.3	74.0	1,509.6	1,428.2	854.3	540.4	59.82

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
19.3	75.0	1,494.6	1,447.5	857.5	547.9	59.24
19.3	76.0	1,479.5	1,466.8	860.3	555.3	58.65
19.3	77.0	1,464.5	1,486.1	863.1	562.8	58.08
19.3	78.0	1,449.4	1,505.4	865.5	570.2	57.49
19.3	79.0	1,434.4	1,524.7	867.8	577.7	56.91
19.3	80.0	1,419.3	1,544.0	869.8	585.2	56.33
19.3	81.0	1,404.3	1,563.3	871.5	592.6	55.75
19.3	82.0	1,389.2	1,582.6	873.0	600.1	55.16
19.3	83.0	1,374.2	1,601.9	874.4	607.6	54.58
19.3	84.0	1,359.1	1,621.2	875.3	615.0	53.99
19.3	85.0	1,344.1	1,640.5	876.2	622.5	53.41

nl = rpm with no load

lo = current with no load

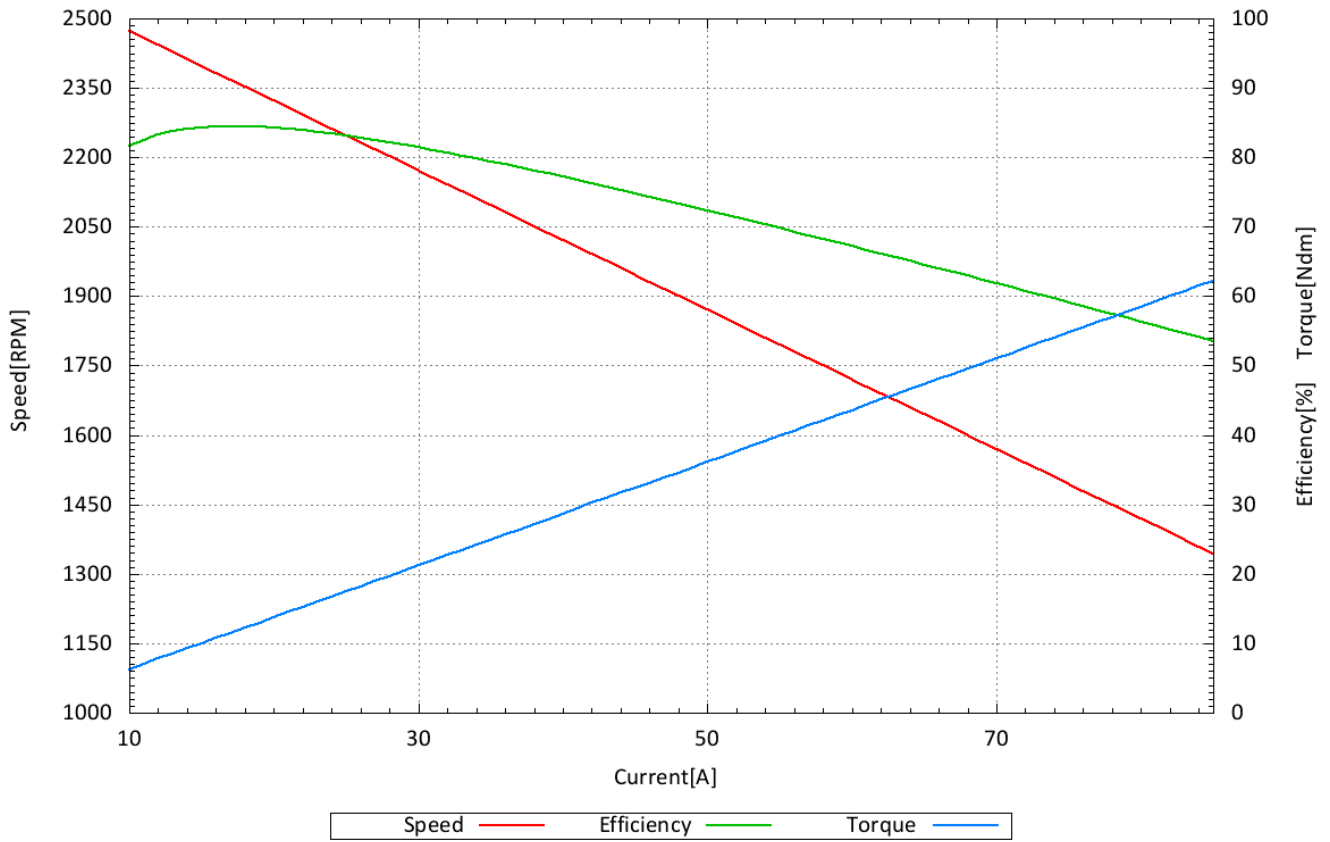
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP430_50_B10_P20_20V_05032024



Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B10 P20**

Date: 05.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **25.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 3,238.2 [RPM] lo: 2.2 [A] kv: 130.9 [RPM/V] kn: -15.64 [RPM/A] kT: 7.52 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
24.9	10.0	3,115.7	249.0	192.2	58.9	77.18
24.9	11.0	3,100.0	273.9	215.6	66.4	78.70
24.9	12.0	3,084.4	298.8	239.0	74.0	79.99
24.9	13.0	3,068.7	323.7	261.9	81.5	80.91
24.9	14.0	3,053.1	348.6	284.6	89.0	81.63
24.9	15.0	3,037.5	373.5	307.0	96.5	82.18
24.9	16.0	3,021.8	398.4	329.1	104.0	82.61
24.9	17.0	3,006.2	423.3	351.0	111.5	82.92
24.9	18.0	2,990.5	448.2	373.0	119.1	83.22
24.9	19.0	2,974.9	473.1	394.4	126.6	83.36
24.9	20.0	2,959.3	498.0	415.6	134.1	83.45
24.9	21.0	2,943.6	522.9	436.5	141.6	83.47
24.9	22.0	2,928.0	547.8	457.2	149.1	83.46
24.9	23.0	2,912.3	572.7	477.6	156.6	83.39
24.9	24.0	2,896.7	597.6	498.1	164.2	83.35
24.9	25.0	2,881.1	622.5	518.0	171.7	83.22
24.8	26.0	2,865.4	644.8	537.7	179.2	83.39
24.8	27.0	2,849.8	669.6	557.2	186.7	83.21
24.8	28.0	2,834.1	694.4	576.4	194.2	83.00
24.8	29.0	2,818.5	719.2	595.3	201.7	82.78
24.8	30.0	2,802.9	744.0	614.3	209.3	82.57
24.8	31.0	2,787.2	768.8	632.8	216.8	82.31
24.8	32.0	2,771.6	793.6	651.0	224.3	82.03
24.8	33.0	2,756.0	818.4	669.0	231.8	81.74
24.8	34.0	2,740.3	843.2	686.7	239.3	81.44
24.8	35.0	2,724.7	868.0	704.2	246.8	81.13

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
24.8	36.0	2,709.0	892.8	721.7	254.4	80.84
24.8	37.0	2,693.4	917.6	738.7	261.9	80.50
24.8	38.0	2,677.8	942.4	755.4	269.4	80.16
24.8	39.0	2,662.1	967.2	771.9	276.9	79.81
24.8	40.0	2,646.5	992.0	788.2	284.4	79.45
24.8	41.0	2,630.8	1,016.8	804.5	292.0	79.12
24.8	42.0	2,615.2	1,041.6	820.2	299.5	78.75
24.7	43.0	2,599.6	1,062.1	835.7	307.0	78.69
24.7	44.0	2,583.9	1,086.8	851.0	314.5	78.30
24.7	45.0	2,568.3	1,111.5	866.0	322.0	77.91
24.7	46.0	2,552.6	1,136.2	880.8	329.5	77.52
24.7	47.0	2,537.0	1,160.9	895.6	337.1	77.15
24.7	48.0	2,521.4	1,185.6	909.9	344.6	76.74
24.7	49.0	2,505.7	1,210.3	923.9	352.1	76.34
24.7	50.0	2,490.1	1,235.0	937.7	359.6	75.93
24.7	51.0	2,474.4	1,259.7	951.2	367.1	75.51
24.7	52.0	2,458.8	1,284.4	964.5	374.6	75.10
24.7	53.0	2,443.2	1,309.1	977.9	382.2	74.70
24.7	54.0	2,427.5	1,333.8	990.6	389.7	74.27
24.7	55.0	2,411.9	1,358.5	1,003.2	397.2	73.85
24.7	56.0	2,396.2	1,383.2	1,015.5	404.7	73.42
24.7	57.0	2,380.6	1,407.9	1,027.6	412.2	72.99
24.7	58.0	2,365.0	1,432.6	1,039.4	419.7	72.56
24.7	59.0	2,349.3	1,457.3	1,051.2	427.3	72.14
24.6	60.0	2,333.7	1,476.0	1,062.6	434.8	71.99
24.6	61.0	2,318.1	1,500.6	1,073.7	442.3	71.55
24.6	62.0	2,302.4	1,525.2	1,084.5	449.8	71.11
24.6	63.0	2,286.8	1,549.8	1,095.1	457.3	70.66
24.6	64.0	2,271.1	1,574.4	1,105.4	464.8	70.21
24.6	65.0	2,255.5	1,599.0	1,115.8	472.4	69.78
24.6	66.0	2,239.9	1,623.6	1,125.7	479.9	69.33
24.6	67.0	2,224.2	1,648.2	1,135.2	487.4	68.88
24.6	68.0	2,208.6	1,672.8	1,144.6	494.9	68.43
24.6	69.0	2,192.9	1,697.4	1,153.7	502.4	67.97
24.6	70.0	2,177.3	1,722.0	1,162.6	509.9	67.51
24.6	71.0	2,161.7	1,746.6	1,171.5	517.5	67.07
24.6	72.0	2,146.0	1,771.2	1,179.8	525.0	66.61
24.6	73.0	2,130.4	1,795.8	1,188.0	532.5	66.15
24.6	74.0	2,114.7	1,820.4	1,195.8	540.0	65.69

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
24.6	75.0	2,099.1	1,845.0	1,203.5	547.5	65.23
24.6	76.0	2,083.5	1,869.6	1,210.9	555.0	64.77
24.5	77.0	2,067.8	1,886.5	1,218.3	562.6	64.58
24.5	78.0	2,052.2	1,911.0	1,225.2	570.1	64.11
24.5	79.0	2,036.5	1,935.5	1,231.8	577.6	63.64
24.5	80.0	2,020.9	1,960.0	1,238.2	585.1	63.18
24.5	81.0	2,005.3	1,984.5	1,244.4	592.6	62.71
24.5	82.0	1,989.6	2,009.0	1,250.5	600.2	62.25
24.5	83.0	1,974.0	2,033.5	1,256.2	607.7	61.78
24.5	84.0	1,958.3	2,058.0	1,261.6	615.2	61.30
24.5	85.0	1,942.7	2,082.5	1,266.8	622.7	60.83

nl = rpm with no load

lo = current with no load

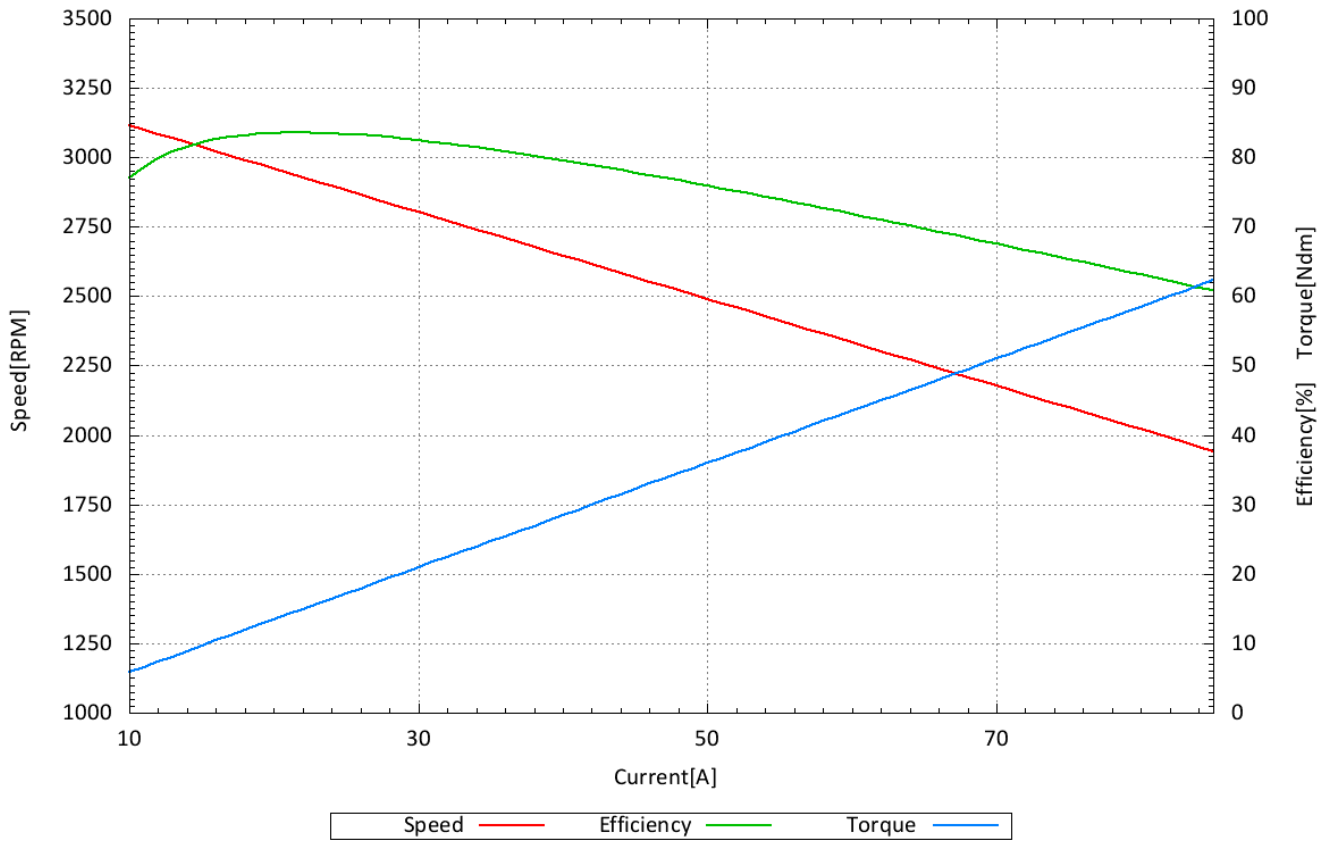
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP430_50_B10_P20_25V_05032024



Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B10 P20**

Date: 05.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **30.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 3,878.4 [RPM] lo: 2.4 [A] kv: 130.7 [RPM/V] kn: -17.29 [RPM/A] kT: 7.70 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
29.9	10.0	3,747.2	299.0	229.6	58.5	76.78
29.9	11.0	3,729.9	328.9	258.6	66.2	78.62
29.9	12.0	3,712.6	358.8	287.3	73.9	80.08
29.9	13.0	3,695.3	388.7	315.8	81.6	81.24
29.9	14.0	3,678.0	418.6	343.9	89.3	82.17
29.9	15.0	3,660.8	448.5	371.9	97.0	82.91
29.9	16.0	3,643.5	478.4	399.5	104.7	83.50
29.9	17.0	3,626.2	508.3	426.8	112.4	83.97
29.9	18.0	3,608.9	538.2	453.9	120.1	84.33
29.9	19.0	3,591.6	568.1	480.7	127.8	84.61
29.9	20.0	3,574.3	598.0	507.2	135.5	84.81
29.9	21.0	3,557.0	627.9	533.4	143.2	84.95
29.9	22.0	3,539.8	657.8	559.4	150.9	85.04
29.8	23.0	3,522.5	685.4	585.0	158.6	85.36
29.8	24.0	3,505.2	715.2	610.4	166.3	85.35
29.8	25.0	3,487.9	745.0	635.5	174.0	85.31
29.8	26.0	3,470.6	774.8	660.4	181.7	85.23
29.8	27.0	3,453.3	804.6	684.9	189.4	85.13
29.8	28.0	3,436.0	834.4	709.2	197.1	85.00
29.8	29.0	3,418.8	864.2	733.2	204.8	84.84
29.8	30.0	3,401.5	894.0	756.9	212.5	84.67
29.8	31.0	3,384.2	923.8	780.4	220.2	84.47
29.8	32.0	3,366.9	953.6	803.5	227.9	84.26
29.8	33.0	3,349.6	983.4	826.4	235.6	84.04
29.8	34.0	3,332.3	1,013.2	849.0	243.3	83.80
29.8	35.0	3,315.0	1,043.0	871.3	251.0	83.54

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
29.8	36.0	3,297.8	1,072.8	893.4	258.7	83.28
29.8	37.0	3,280.5	1,102.6	915.2	266.4	83.00
29.7	38.0	3,263.2	1,128.6	936.7	274.1	82.99
29.7	39.0	3,245.9	1,158.3	957.9	281.8	82.70
29.7	40.0	3,228.6	1,188.0	978.8	289.5	82.39
29.7	41.0	3,211.3	1,217.7	999.4	297.2	82.08
29.7	42.0	3,194.1	1,247.4	1,019.8	304.9	81.76
29.7	43.0	3,176.8	1,277.1	1,039.9	312.6	81.43
29.7	44.0	3,159.5	1,306.8	1,059.8	320.3	81.10
29.7	45.0	3,142.2	1,336.5	1,079.3	328.0	80.75
29.7	46.0	3,124.9	1,366.2	1,098.5	335.7	80.41
29.7	47.0	3,107.6	1,395.9	1,117.5	343.4	80.06
29.7	48.0	3,090.3	1,425.6	1,136.2	351.1	79.70
29.7	49.0	3,073.1	1,455.3	1,154.7	358.8	79.34
29.7	50.0	3,055.8	1,485.0	1,172.8	366.5	78.98
29.7	51.0	3,038.5	1,514.7	1,190.7	374.2	78.61
29.7	52.0	3,021.2	1,544.4	1,208.3	381.9	78.23
29.6	53.0	3,003.9	1,568.8	1,225.6	389.6	78.12
29.6	54.0	2,986.6	1,598.4	1,242.6	397.3	77.74
29.6	55.0	2,969.3	1,628.0	1,259.3	405.0	77.35
29.6	56.0	2,952.1	1,657.6	1,275.8	412.7	76.97
29.6	57.0	2,934.8	1,687.2	1,292.0	420.4	76.58
29.6	58.0	2,917.5	1,716.8	1,307.9	428.1	76.18
29.6	59.0	2,900.2	1,746.4	1,323.6	435.8	75.79
29.6	60.0	2,882.9	1,776.0	1,338.9	443.5	75.39
29.6	61.0	2,865.6	1,805.6	1,354.0	451.2	74.99
29.6	62.0	2,848.3	1,835.2	1,368.8	458.9	74.58
29.6	63.0	2,831.1	1,864.8	1,383.3	466.6	74.18
29.6	64.0	2,813.8	1,894.4	1,397.6	474.3	73.77
29.6	65.0	2,796.5	1,924.0	1,411.5	482.0	73.36
29.6	66.0	2,779.2	1,953.6	1,425.2	489.7	72.95
29.6	67.0	2,761.9	1,983.2	1,438.6	497.4	72.54
29.5	68.0	2,744.6	2,006.0	1,451.7	505.1	72.37
29.5	69.0	2,727.3	2,035.5	1,464.6	512.8	71.95
29.5	70.0	2,710.1	2,065.0	1,477.5	520.6	71.55
29.5	71.0	2,692.8	2,094.5	1,489.7	528.3	71.13
29.5	72.0	2,675.5	2,124.0	1,501.8	536.0	70.70
29.5	73.0	2,658.2	2,153.5	1,513.5	543.7	70.28
29.5	74.0	2,640.9	2,183.0	1,524.9	551.4	69.85

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
29.5	75.0	2,623.6	2,212.5	1,536.1	559.1	69.43
29.5	76.0	2,606.3	2,242.0	1,547.0	566.8	69.00
29.5	77.0	2,589.1	2,271.5	1,557.6	574.5	68.57
29.5	78.0	2,571.8	2,301.0	1,568.0	582.2	68.14
29.5	79.0	2,554.5	2,330.5	1,578.0	589.9	67.71
29.5	80.0	2,537.2	2,360.0	1,587.8	597.6	67.28
29.5	81.0	2,519.9	2,389.5	1,597.3	605.3	66.85
29.5	82.0	2,502.6	2,419.0	1,606.5	613.0	66.41
29.4	83.0	2,485.4	2,440.2	1,615.5	620.7	66.20
29.4	84.0	2,468.1	2,469.6	1,624.2	628.4	65.77
29.4	85.0	2,450.8	2,499.0	1,632.5	636.1	65.33

nl = rpm with no load

lo = current with no load

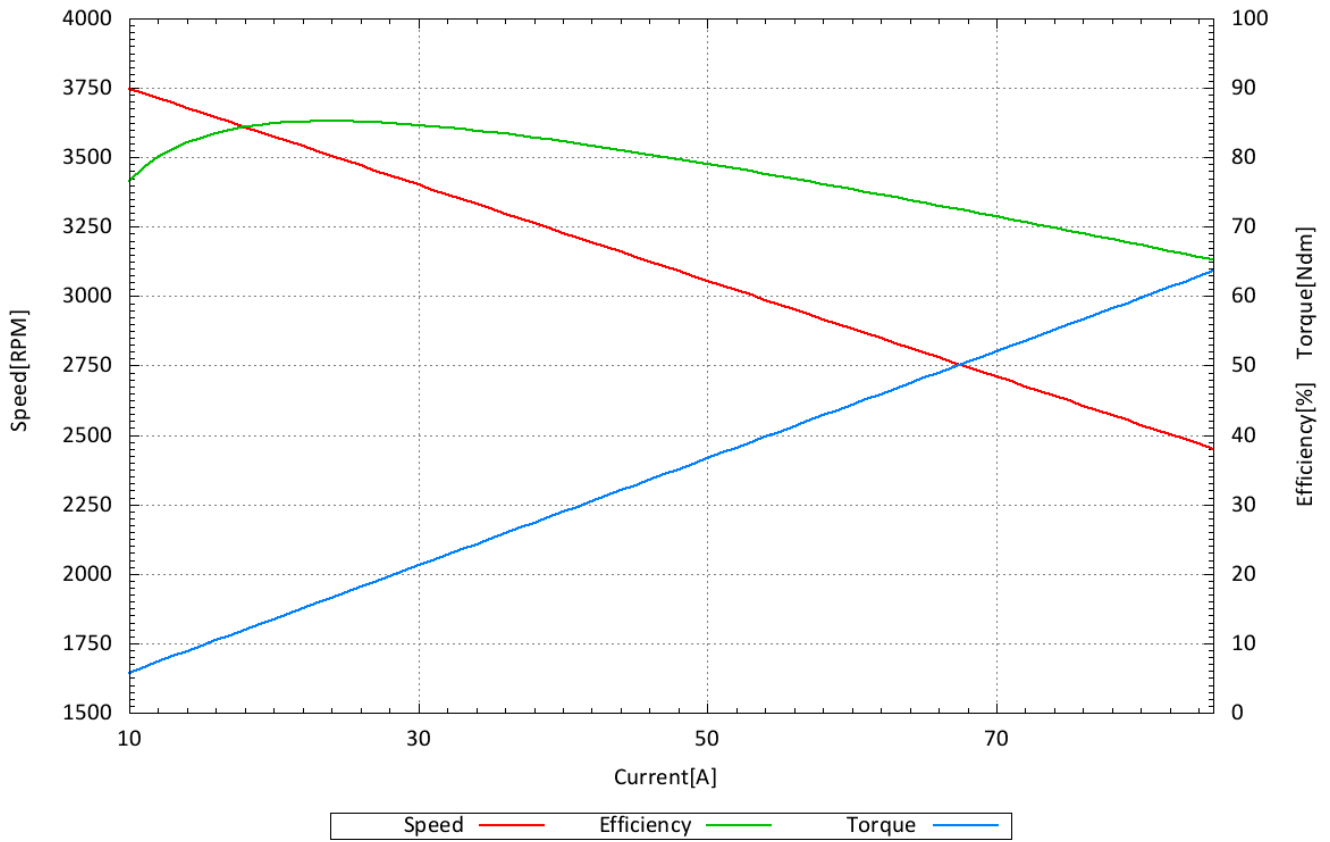
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP430_50_B10_P20_30V_05032024



Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B10 P20**

Date: 05.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **35.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 4,512.1 [RPM] lo: 1.4 [A] kv: 129.6 [RPM/V] kn: -17.99 [RPM/A] kT: 7.63 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
34.9	10.0	4,356.6	349.0	301.1	66.0	86.28
34.9	11.0	4,338.6	383.9	334.4	73.6	87.10
34.9	12.0	4,320.6	418.8	367.4	81.2	87.72
34.9	13.0	4,302.6	453.7	400.1	88.8	88.19
34.9	14.0	4,284.6	488.6	433.0	96.5	88.62
34.9	15.0	4,266.6	523.5	465.1	104.1	88.85
34.9	16.0	4,248.6	558.4	497.0	111.7	89.00
34.9	17.0	4,230.7	593.3	529.0	119.4	89.16
34.9	18.0	4,212.7	628.2	560.3	127.0	89.19
34.9	19.0	4,194.7	663.1	591.3	134.6	89.17
34.9	20.0	4,176.7	698.0	622.0	142.2	89.11
34.9	21.0	4,158.7	732.9	652.8	149.9	89.07
34.9	22.0	4,140.7	767.8	682.9	157.5	88.95
34.9	23.0	4,122.7	802.7	712.8	165.1	88.80
34.9	24.0	4,104.7	837.6	742.8	172.8	88.68
34.9	25.0	4,086.7	872.5	772.0	180.4	88.49
34.9	26.0	4,068.7	907.4	801.0	188.0	88.28
34.8	27.0	4,050.7	939.6	830.1	195.7	88.35
34.8	28.0	4,032.8	974.4	858.6	203.3	88.11
34.8	29.0	4,014.8	1,009.2	886.7	210.9	87.86
34.8	30.0	3,996.8	1,044.0	914.5	218.5	87.60
34.8	31.0	3,978.8	1,078.8	942.5	226.2	87.36
34.8	32.0	3,960.8	1,113.6	969.7	233.8	87.08
34.8	33.0	3,942.8	1,148.4	996.7	241.4	86.79
34.8	34.0	3,924.8	1,183.2	1,023.8	249.1	86.53
34.8	35.0	3,906.8	1,218.0	1,050.2	256.7	86.22

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
34.8	36.0	3,888.8	1,252.8	1,076.3	264.3	85.91
34.8	37.0	3,870.8	1,287.6	1,102.1	271.9	85.60
34.8	38.0	3,852.9	1,322.4	1,128.1	279.6	85.31
34.8	39.0	3,834.9	1,357.2	1,153.4	287.2	84.98
34.8	40.0	3,816.9	1,392.0	1,178.3	294.8	84.65
34.8	41.0	3,798.9	1,426.8	1,203.4	302.5	84.34
34.8	42.0	3,780.9	1,461.6	1,227.8	310.1	84.00
34.8	43.0	3,762.9	1,496.4	1,251.9	317.7	83.66
34.8	44.0	3,744.9	1,531.2	1,275.7	325.3	83.31
34.7	45.0	3,726.9	1,561.5	1,299.6	333.0	83.23
34.7	46.0	3,708.9	1,596.2	1,322.9	340.6	82.88
34.7	47.0	3,690.9	1,630.9	1,345.8	348.2	82.52
34.7	48.0	3,672.9	1,665.6	1,368.9	355.9	82.19
34.7	49.0	3,655.0	1,700.3	1,391.3	363.5	81.83
34.7	50.0	3,637.0	1,735.0	1,413.4	371.1	81.46
34.7	51.0	3,619.0	1,769.7	1,435.6	378.8	81.12
34.7	52.0	3,601.0	1,804.4	1,457.1	386.4	80.75
34.7	53.0	3,583.0	1,839.1	1,478.3	394.0	80.38
34.7	54.0	3,565.0	1,873.8	1,499.3	401.6	80.01
34.7	55.0	3,547.0	1,908.5	1,520.3	409.3	79.66
34.7	56.0	3,529.0	1,943.2	1,540.7	416.9	79.29
34.7	57.0	3,511.0	1,977.9	1,560.8	424.5	78.91
34.7	58.0	3,493.0	2,012.6	1,580.9	432.2	78.55
34.7	59.0	3,475.0	2,047.3	1,600.4	439.8	78.17
34.7	60.0	3,457.1	2,082.0	1,619.7	447.4	77.80
34.7	61.0	3,439.1	2,116.7	1,638.6	455.0	77.42
34.6	62.0	3,421.1	2,145.2	1,657.7	462.7	77.27
34.6	63.0	3,403.1	2,179.8	1,676.0	470.3	76.89
34.6	64.0	3,385.1	2,214.4	1,694.1	477.9	76.50
34.6	65.0	3,367.1	2,249.0	1,712.2	485.6	76.13
34.6	66.0	3,349.1	2,283.6	1,729.7	493.2	75.75
34.6	67.0	3,331.1	2,318.2	1,747.0	500.8	75.36
34.6	68.0	3,313.1	2,352.8	1,763.9	508.4	74.97
34.6	69.0	3,295.1	2,387.4	1,780.9	516.1	74.59
34.6	70.0	3,277.2	2,422.0	1,797.3	523.7	74.21
34.6	71.0	3,259.2	2,456.6	1,813.3	531.3	73.82
34.6	72.0	3,241.2	2,491.2	1,829.5	539.0	73.44
34.6	73.0	3,223.2	2,525.8	1,845.0	546.6	73.04
34.6	74.0	3,205.2	2,560.4	1,860.2	554.2	72.65

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
34.6	75.0	3,187.2	2,595.0	1,875.1	561.8	72.26
34.6	76.0	3,169.2	2,629.6	1,890.0	569.5	71.88
34.6	77.0	3,151.2	2,664.2	1,904.4	577.1	71.48
34.6	78.0	3,133.2	2,698.8	1,918.4	584.7	71.09
34.6	79.0	3,115.2	2,733.4	1,932.5	592.4	70.70
34.5	80.0	3,097.2	2,760.0	1,946.0	600.0	70.51
34.5	81.0	3,079.3	2,794.5	1,959.3	607.6	70.11
34.5	82.0	3,061.3	2,829.0	1,972.5	615.3	69.72
34.5	83.0	3,043.3	2,863.5	1,985.1	622.9	69.33
34.5	84.0	3,025.3	2,898.0	1,997.5	630.5	68.93
34.5	85.0	3,007.3	2,932.5	2,009.5	638.1	68.53

nl = rpm with no load

lo = current with no load

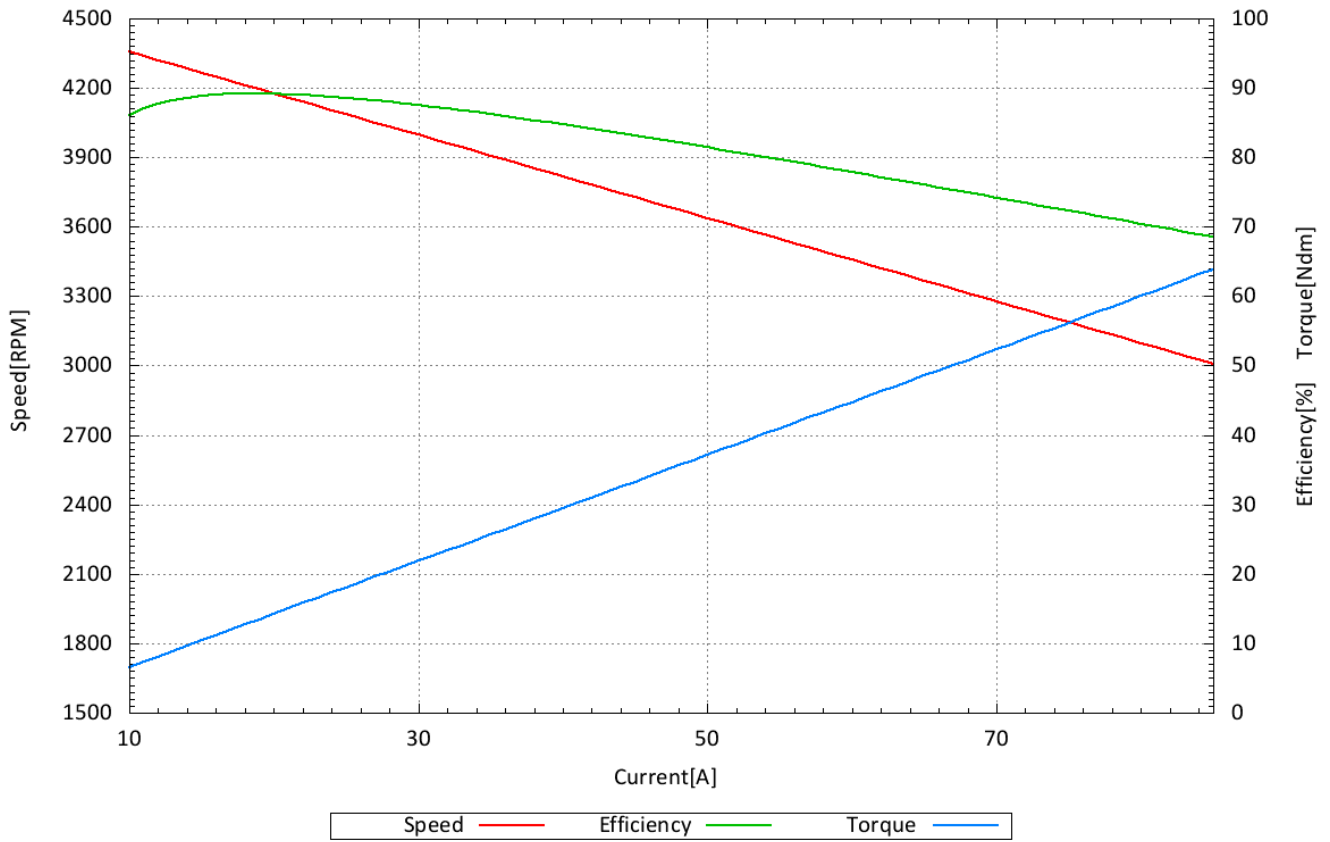
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP430_50_B10_P20_35V_05032024



Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B10 P20**

Date: 05.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **40.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 5,161.3 [RPM] lo: 1.2 [A] kv: 129.6 [RPM/V] kn: -19.39 [RPM/A] kT: 7.59 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
39.9	10.0	4,989.9	399.0	350.6	67.1	87.88
39.9	11.0	4,970.5	438.9	388.3	74.6	88.47
39.9	12.0	4,951.1	478.8	426.2	82.2	89.01
39.9	13.0	4,931.7	518.7	463.8	89.8	89.41
39.9	14.0	4,912.3	558.6	501.0	97.4	89.70
39.9	15.0	4,892.9	598.5	538.0	105.0	89.89
39.9	16.0	4,873.6	638.4	574.7	112.6	90.02
39.9	17.0	4,854.2	678.3	611.0	120.2	90.08
39.9	18.0	4,834.8	718.2	647.1	127.8	90.09
39.9	19.0	4,815.4	758.1	682.3	135.3	90.00
39.9	20.0	4,796.0	798.0	717.7	142.9	89.94
39.9	21.0	4,776.6	837.9	752.8	150.5	89.84
39.9	22.0	4,757.2	877.8	787.6	158.1	89.73
39.9	23.0	4,737.8	917.7	822.1	165.7	89.58
39.9	24.0	4,718.4	957.6	856.3	173.3	89.42
39.9	25.0	4,699.0	997.5	890.2	180.9	89.24
39.9	26.0	4,679.6	1,037.4	923.2	188.4	89.00
39.9	27.0	4,660.2	1,077.3	956.5	196.0	88.79
39.9	28.0	4,640.8	1,117.2	989.5	203.6	88.57
39.9	29.0	4,621.4	1,157.1	1,022.1	211.2	88.33
39.8	30.0	4,602.0	1,194.0	1,054.4	218.8	88.31
39.8	31.0	4,582.6	1,233.8	1,086.5	226.4	88.06
39.8	32.0	4,563.3	1,273.6	1,118.2	234.0	87.80
39.8	33.0	4,543.9	1,313.4	1,149.6	241.6	87.53
39.8	34.0	4,524.5	1,353.2	1,180.2	249.1	87.22
39.8	35.0	4,505.1	1,393.0	1,211.0	256.7	86.94

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
39.8	36.0	4,485.7	1,432.8	1,241.5	264.3	86.65
39.8	37.0	4,466.3	1,472.6	1,271.7	271.9	86.36
39.8	38.0	4,446.9	1,512.4	1,301.6	279.5	86.06
39.8	39.0	4,427.5	1,552.2	1,331.1	287.1	85.76
39.8	40.0	4,408.1	1,592.0	1,360.4	294.7	85.45
39.8	41.0	4,388.7	1,631.8	1,389.3	302.3	85.14
39.8	42.0	4,369.3	1,671.6	1,417.5	309.8	84.80
39.8	43.0	4,349.9	1,711.4	1,445.8	317.4	84.48
39.8	44.0	4,330.5	1,751.2	1,473.8	325.0	84.16
39.8	45.0	4,311.1	1,791.0	1,501.5	332.6	83.84
39.8	46.0	4,291.7	1,830.8	1,528.9	340.2	83.51
39.8	47.0	4,272.4	1,870.6	1,556.1	347.8	83.19
39.8	48.0	4,253.0	1,910.4	1,582.9	355.4	82.85
39.8	49.0	4,233.6	1,950.2	1,608.9	362.9	82.50
39.7	50.0	4,214.2	1,985.0	1,635.1	370.5	82.37
39.7	51.0	4,194.8	2,024.7	1,660.9	378.1	82.03
39.7	52.0	4,175.4	2,064.4	1,686.5	385.7	81.69
39.7	53.0	4,156.0	2,104.1	1,711.7	393.3	81.35
39.7	54.0	4,136.6	2,143.8	1,736.6	400.9	81.01
39.7	55.0	4,117.2	2,183.5	1,761.3	408.5	80.66
39.7	56.0	4,097.8	2,223.2	1,785.6	416.1	80.32
39.7	57.0	4,078.4	2,262.9	1,809.1	423.6	79.95
39.7	58.0	4,059.0	2,302.6	1,832.8	431.2	79.60
39.7	59.0	4,039.6	2,342.3	1,856.2	438.8	79.25
39.7	60.0	4,020.2	2,382.0	1,879.3	446.4	78.90
39.7	61.0	4,000.8	2,421.7	1,902.1	454.0	78.54
39.7	62.0	3,981.4	2,461.4	1,924.6	461.6	78.19
39.7	63.0	3,962.1	2,501.1	1,946.8	469.2	77.84
39.7	64.0	3,942.7	2,540.8	1,968.2	476.7	77.46
39.7	65.0	3,923.3	2,580.5	1,989.7	484.3	77.11
39.7	66.0	3,903.9	2,620.2	2,011.0	491.9	76.75
39.7	67.0	3,884.5	2,659.9	2,031.9	499.5	76.39
39.7	68.0	3,865.1	2,699.6	2,052.5	507.1	76.03
39.7	69.0	3,845.7	2,739.3	2,072.8	514.7	75.67
39.6	70.0	3,826.3	2,772.0	2,092.8	522.3	75.50
39.6	71.0	3,806.9	2,811.6	2,112.5	529.9	75.13
39.6	72.0	3,787.5	2,851.2	2,131.5	537.4	74.76
39.6	73.0	3,768.1	2,890.8	2,150.5	545.0	74.39
39.6	74.0	3,748.7	2,930.4	2,169.3	552.6	74.03

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
39.6	75.0	3,729.3	2,970.0	2,187.8	560.2	73.66
39.6	76.0	3,709.9	3,009.6	2,205.9	567.8	73.30
39.6	77.0	3,690.5	3,049.2	2,223.7	575.4	72.93
39.6	78.0	3,671.1	3,088.8	2,241.3	583.0	72.56
39.6	79.0	3,651.8	3,128.4	2,258.5	590.6	72.19
39.6	80.0	3,632.4	3,168.0	2,275.1	598.1	71.81
39.6	81.0	3,613.0	3,207.6	2,291.7	605.7	71.45
39.6	82.0	3,593.6	3,247.2	2,308.0	613.3	71.08
39.6	83.0	3,574.2	3,286.8	2,324.0	620.9	70.71
39.6	84.0	3,554.8	3,326.4	2,339.6	628.5	70.34
39.6	85.0	3,535.4	3,366.0	2,355.0	636.1	69.96

nl = rpm with no load

lo = current with no load

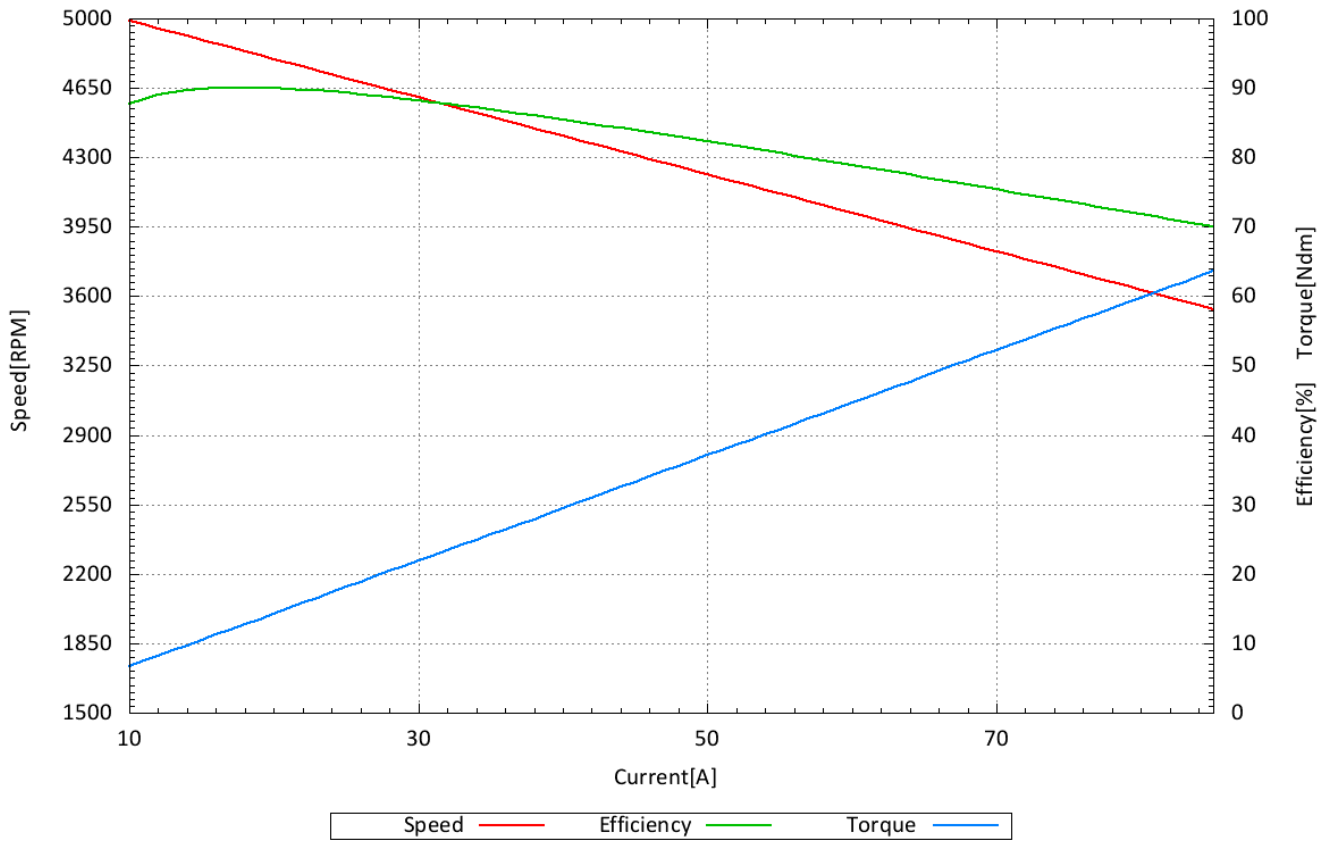
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP430_50_B10_P20_40V_05032024



Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B10 P20**

Date: 05.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **45.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 5,759.8 [RPM] lo: 1.4 [A] kv: 128.6 [RPM/V] kn: -20.56 [RPM/A] kT: 7.60 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
44.9	10.0	5,583.5	449.0	380.6	65.1	84.78
44.9	11.0	5,562.9	493.9	423.5	72.7	85.75
44.9	12.0	5,542.4	538.8	466.1	80.3	86.50
44.9	13.0	5,521.8	583.7	508.3	87.9	87.08
44.9	14.0	5,501.2	628.6	550.2	95.5	87.52
44.9	15.0	5,480.7	673.5	591.7	103.1	87.86
44.9	16.0	5,460.1	718.4	633.0	110.7	88.11
44.9	17.0	5,439.5	763.3	673.9	118.3	88.28
44.8	18.0	5,419.0	806.4	714.5	125.9	88.60
44.8	19.0	5,398.4	851.2	754.7	133.5	88.66
44.8	20.0	5,377.9	896.0	794.6	141.1	88.69
44.8	21.0	5,357.3	940.8	834.2	148.7	88.67
44.8	22.0	5,336.7	985.6	873.5	156.3	88.63
44.8	23.0	5,316.2	1,030.4	912.4	163.9	88.55
44.8	24.0	5,295.6	1,075.2	951.1	171.5	88.45
44.8	25.0	5,275.0	1,120.0	988.8	179.0	88.28
44.8	26.0	5,254.5	1,164.8	1,026.8	186.6	88.15
44.8	27.0	5,233.9	1,209.6	1,064.4	194.2	88.00
44.8	28.0	5,213.3	1,254.4	1,101.7	201.8	87.83
44.8	29.0	5,192.8	1,299.2	1,138.7	209.4	87.65
44.7	30.0	5,172.2	1,341.0	1,175.3	217.0	87.65
44.7	31.0	5,151.7	1,385.7	1,211.7	224.6	87.44
44.7	32.0	5,131.1	1,430.4	1,247.7	232.2	87.23
44.7	33.0	5,110.5	1,475.1	1,283.3	239.8	87.00
44.7	34.0	5,090.0	1,519.8	1,318.7	247.4	86.77
44.7	35.0	5,069.4	1,564.5	1,353.7	255.0	86.53

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
44.7	36.0	5,048.8	1,609.2	1,388.4	262.6	86.28
44.7	37.0	5,028.3	1,653.9	1,422.8	270.2	86.03
44.7	38.0	5,007.7	1,698.6	1,456.8	277.8	85.76
44.7	39.0	4,987.1	1,743.3	1,490.5	285.4	85.50
44.7	40.0	4,966.6	1,788.0	1,523.9	293.0	85.23
44.7	41.0	4,946.0	1,832.7	1,556.9	300.6	84.95
44.6	42.0	4,925.5	1,873.2	1,589.7	308.2	84.86
44.6	43.0	4,904.9	1,917.8	1,622.1	315.8	84.58
44.6	44.0	4,884.3	1,962.4	1,654.1	323.4	84.29
44.6	45.0	4,863.8	2,007.0	1,685.9	331.0	84.00
44.6	46.0	4,843.2	2,051.6	1,717.3	338.6	83.71
44.6	47.0	4,822.6	2,096.2	1,748.4	346.2	83.41
44.6	48.0	4,802.1	2,140.8	1,779.2	353.8	83.11
44.6	49.0	4,781.5	2,185.4	1,809.1	361.3	82.78
44.6	50.0	4,761.0	2,230.0	1,839.2	368.9	82.48
44.6	51.0	4,740.4	2,274.6	1,869.0	376.5	82.17
44.6	52.0	4,719.8	2,319.2	1,898.4	384.1	81.86
44.6	53.0	4,699.3	2,363.8	1,927.6	391.7	81.55
44.5	54.0	4,678.7	2,403.0	1,956.4	399.3	81.41
44.5	55.0	4,658.1	2,447.5	1,984.8	406.9	81.10
44.5	56.0	4,637.6	2,492.0	2,013.0	414.5	80.78
44.5	57.0	4,617.0	2,536.5	2,040.8	422.1	80.46
44.5	58.0	4,596.4	2,581.0	2,068.3	429.7	80.14
44.5	59.0	4,575.9	2,625.5	2,095.5	437.3	79.81
44.5	60.0	4,555.3	2,670.0	2,122.3	444.9	79.49
44.5	61.0	4,534.8	2,714.5	2,148.8	452.5	79.16
44.5	62.0	4,514.2	2,759.0	2,175.0	460.1	78.83
44.5	63.0	4,493.6	2,803.5	2,200.8	467.7	78.50
44.5	64.0	4,473.1	2,848.0	2,226.4	475.3	78.17
44.5	65.0	4,452.5	2,892.5	2,251.6	482.9	77.84
44.4	66.0	4,431.9	2,930.4	2,276.4	490.5	77.68
44.4	67.0	4,411.4	2,974.8	2,301.0	498.1	77.35
44.4	68.0	4,390.8	3,019.2	2,325.2	505.7	77.01
44.4	69.0	4,370.2	3,063.6	2,349.1	513.3	76.68
44.4	70.0	4,349.7	3,108.0	2,372.7	520.9	76.34
44.4	71.0	4,329.1	3,152.4	2,395.9	528.5	76.00
44.4	72.0	4,308.6	3,196.8	2,418.9	536.1	75.67
44.4	73.0	4,288.0	3,241.2	2,441.0	543.6	75.31
44.4	74.0	4,267.4	3,285.6	2,463.2	551.2	74.97

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
44.4	75.0	4,246.9	3,330.0	2,485.2	558.8	74.63
44.4	76.0	4,226.3	3,374.4	2,506.8	566.4	74.29
44.4	77.0	4,205.7	3,418.8	2,528.0	574.0	73.94
44.3	78.0	4,185.2	3,455.4	2,549.0	581.6	73.77
44.3	79.0	4,164.6	3,499.7	2,569.6	589.2	73.42
44.3	80.0	4,144.1	3,544.0	2,589.9	596.8	73.08
44.3	81.0	4,123.5	3,588.3	2,609.9	604.4	72.73
44.3	82.0	4,102.9	3,632.6	2,629.5	612.0	72.39
44.3	83.0	4,082.4	3,676.9	2,648.8	619.6	72.04
44.3	84.0	4,061.8	3,721.2	2,667.8	627.2	71.69
44.3	85.0	4,041.2	3,765.5	2,686.4	634.8	71.34

nl = rpm with no load

lo = current with no load

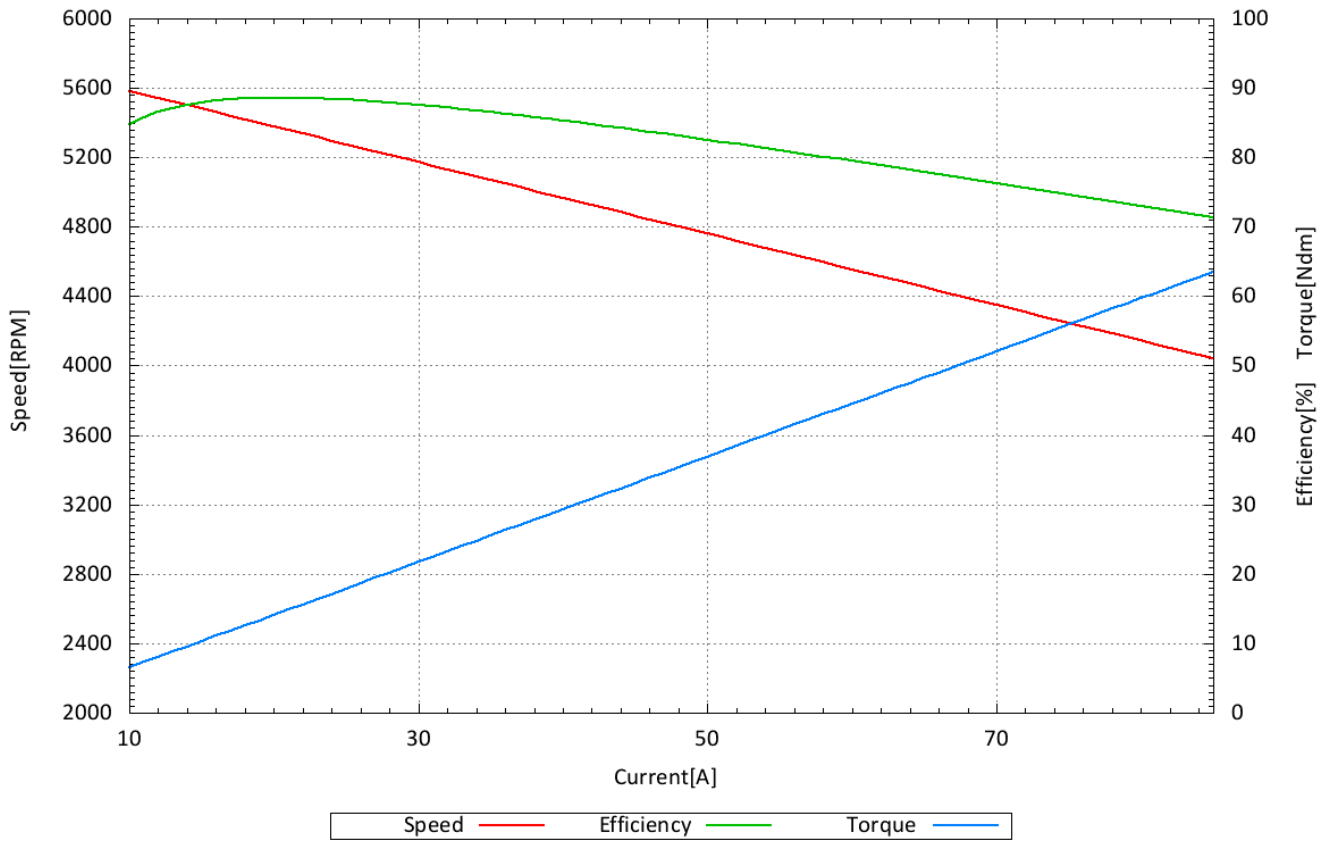
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP430_50_B10_P20_45V_05032024



Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B10 P20**

Date: 05.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **50.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 6,400.9 [RPM] lo: 1.4 [A] kv: 128.7 [RPM/V] kn: -21.96 [RPM/A] kT: 7.68 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
50.0	10.0	6,213.1	500.0	427.5	65.7	85.49
49.9	11.0	6,191.1	548.9	475.9	73.4	86.70
49.9	12.0	6,169.2	598.8	523.9	81.1	87.50
49.9	13.0	6,147.2	648.7	571.0	88.7	88.02
49.9	14.0	6,125.2	698.6	618.3	96.4	88.51
49.9	15.0	6,103.3	748.5	665.3	104.1	88.89
49.9	16.0	6,081.3	798.4	712.0	111.8	89.18
49.9	17.0	6,059.4	848.3	757.6	119.4	89.31
49.9	18.0	6,037.4	898.2	803.6	127.1	89.46
49.9	19.0	6,015.4	948.1	849.1	134.8	89.56
49.9	20.0	5,993.5	998.0	894.4	142.5	89.62
49.9	21.0	5,971.5	1,047.9	939.3	150.2	89.63
49.9	22.0	5,949.6	1,097.8	983.2	157.8	89.56
49.9	23.0	5,927.6	1,147.7	1,027.3	165.5	89.51
49.9	24.0	5,905.6	1,197.6	1,071.1	173.2	89.44
49.9	25.0	5,883.7	1,247.5	1,114.6	180.9	89.35
49.9	26.0	5,861.7	1,297.4	1,157.7	188.6	89.23
49.9	27.0	5,839.8	1,347.3	1,199.8	196.2	89.06
49.9	28.0	5,817.8	1,397.2	1,242.2	203.9	88.91
49.9	29.0	5,795.8	1,447.1	1,284.3	211.6	88.75
49.9	30.0	5,773.9	1,497.0	1,326.0	219.3	88.58
49.8	31.0	5,751.9	1,543.8	1,367.3	227.0	88.57
49.8	32.0	5,730.0	1,593.6	1,407.7	234.6	88.33
49.8	33.0	5,708.0	1,643.4	1,448.3	242.3	88.13
49.8	34.0	5,686.0	1,693.2	1,488.6	250.0	87.92
49.8	35.0	5,664.1	1,743.0	1,528.5	257.7	87.70

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
49.8	36.0	5,642.1	1,792.8	1,568.1	265.4	87.47
49.8	37.0	5,620.2	1,842.6	1,606.7	273.0	87.20
49.8	38.0	5,598.2	1,892.4	1,645.6	280.7	86.96
49.8	39.0	5,576.2	1,942.2	1,684.1	288.4	86.71
49.8	40.0	5,554.3	1,992.0	1,722.3	296.1	86.46
49.8	41.0	5,532.3	2,041.8	1,759.5	303.7	86.17
49.8	42.0	5,510.4	2,091.6	1,796.9	311.4	85.91
49.8	43.0	5,488.4	2,141.4	1,834.0	319.1	85.65
49.8	44.0	5,466.4	2,191.2	1,870.7	326.8	85.37
49.8	45.0	5,444.5	2,241.0	1,907.1	334.5	85.10
49.8	46.0	5,422.5	2,290.8	1,942.6	342.1	84.80
49.8	47.0	5,400.6	2,340.6	1,978.3	349.8	84.52
49.8	48.0	5,378.6	2,390.4	2,013.6	357.5	84.24
49.8	49.0	5,356.6	2,440.2	2,048.6	365.2	83.95
49.8	50.0	5,334.7	2,490.0	2,083.2	372.9	83.66
49.7	51.0	5,312.7	2,534.7	2,116.9	380.5	83.52
49.7	52.0	5,290.8	2,584.4	2,150.8	388.2	83.22
49.7	53.0	5,268.8	2,634.1	2,184.4	395.9	82.93
49.7	54.0	5,246.8	2,683.8	2,217.6	403.6	82.63
49.7	55.0	5,224.9	2,733.5	2,250.4	411.3	82.33
49.7	56.0	5,202.9	2,783.2	2,282.4	418.9	82.00
49.7	57.0	5,181.0	2,832.9	2,314.5	426.6	81.70
49.7	58.0	5,159.0	2,882.6	2,346.3	434.3	81.40
49.7	59.0	5,137.0	2,932.3	2,377.7	442.0	81.09
49.7	60.0	5,115.1	2,982.0	2,408.8	449.7	80.78
49.7	61.0	5,093.1	3,031.7	2,439.0	457.3	80.45
49.7	62.0	5,071.1	3,081.4	2,469.4	465.0	80.14
49.7	63.0	5,049.2	3,131.1	2,499.4	472.7	79.83
49.7	64.0	5,027.2	3,180.8	2,529.1	480.4	79.51
49.7	65.0	5,005.3	3,230.5	2,557.9	488.0	79.18
49.7	66.0	4,983.3	3,280.2	2,586.8	495.7	78.86
49.7	67.0	4,961.3	3,329.9	2,615.4	503.4	78.54
49.7	68.0	4,939.4	3,379.6	2,643.7	511.1	78.22
49.7	69.0	4,917.4	3,429.3	2,671.6	518.8	77.90
49.7	70.0	4,895.5	3,479.0	2,698.6	526.4	77.57
49.6	71.0	4,873.5	3,521.6	2,725.8	534.1	77.40
49.6	72.0	4,851.5	3,571.2	2,752.6	541.8	77.08
49.6	73.0	4,829.6	3,620.8	2,779.1	549.5	76.75
49.6	74.0	4,807.6	3,670.4	2,805.2	557.2	76.43

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
49.6	75.0	4,785.7	3,720.0	2,830.5	564.8	76.09
49.6	76.0	4,763.7	3,769.6	2,855.9	572.5	75.76
49.6	77.0	4,741.7	3,819.2	2,881.0	580.2	75.43
49.6	78.0	4,719.8	3,868.8	2,905.7	587.9	75.11
49.6	79.0	4,697.8	3,918.4	2,930.1	595.6	74.78
49.6	80.0	4,675.9	3,968.0	2,953.6	603.2	74.44
49.6	81.0	4,653.9	4,017.6	2,977.3	610.9	74.11
49.6	82.0	4,631.9	4,067.2	3,000.5	618.6	73.77
49.6	83.0	4,610.0	4,116.8	3,023.5	626.3	73.44
49.6	84.0	4,588.0	4,166.4	3,046.1	634.0	73.11
49.6	85.0	4,566.1	4,216.0	3,067.9	641.6	72.77

nl = rpm with no load

lo = current with no load

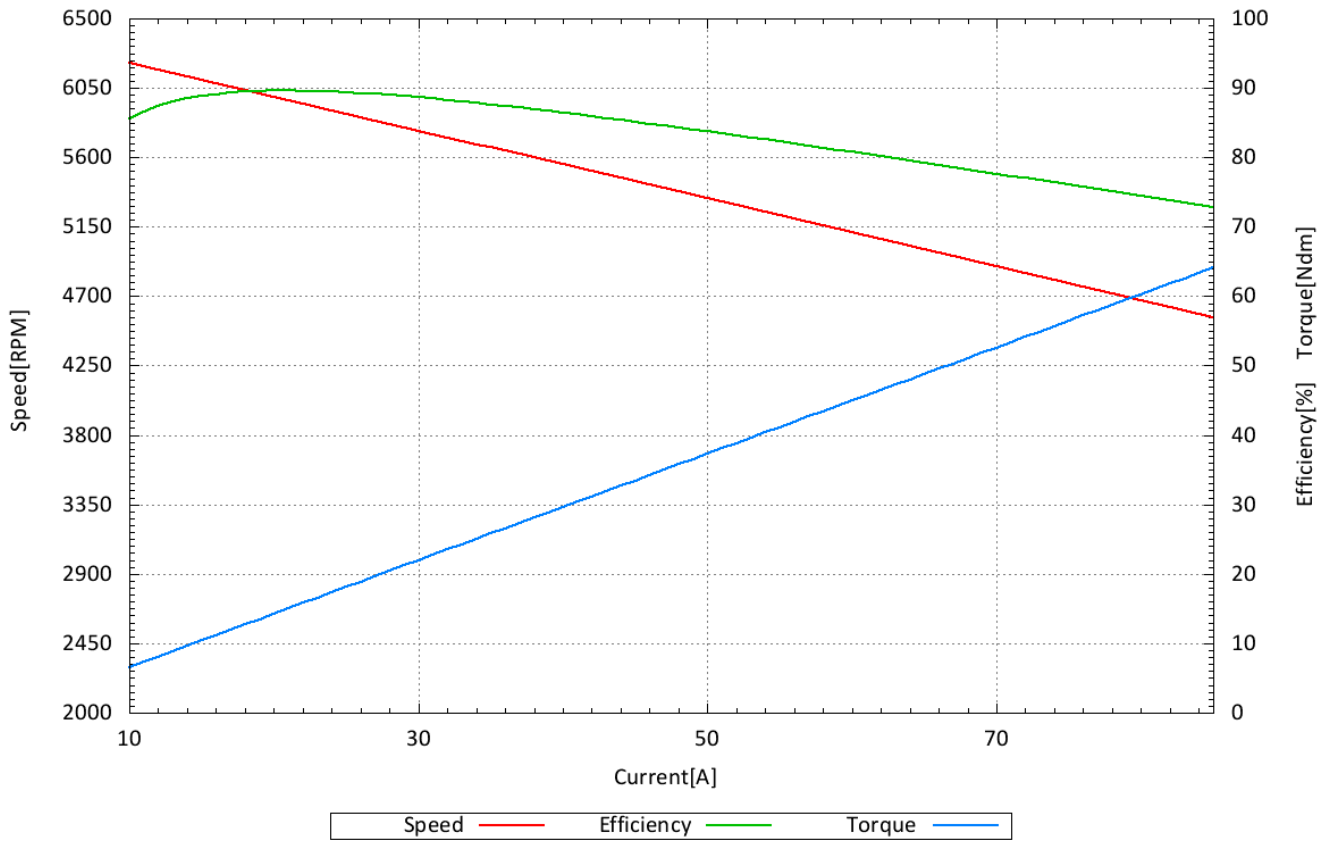
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP430_50_B10_P20_50V_05032024



Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B10 P20**

Date: 05.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **55.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 6,978.6 [RPM] lo: 1.5 [A] kv: 127.5 [RPM/V] kn: -22.26 [RPM/A] kT: 7.72 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
55.0	10.0	6,790.2	550.0	464.3	65.3	84.42
54.9	11.0	6,767.9	603.9	517.4	73.0	85.67
54.9	12.0	6,745.7	658.8	570.1	80.7	86.53
54.9	13.0	6,723.4	713.7	622.4	88.4	87.21
54.9	14.0	6,701.1	768.6	675.1	96.2	87.83
54.9	15.0	6,678.9	823.5	726.7	103.9	88.24
54.9	16.0	6,656.6	878.4	777.9	111.6	88.56
54.9	17.0	6,634.4	933.3	828.8	119.3	88.81
54.9	18.0	6,612.1	988.2	879.4	127.0	88.99
54.9	19.0	6,589.9	1,043.1	929.6	134.7	89.11
54.9	20.0	6,567.6	1,098.0	980.1	142.5	89.26
54.9	21.0	6,545.3	1,152.9	1,029.5	150.2	89.30
54.9	22.0	6,523.1	1,207.8	1,078.6	157.9	89.30
54.9	23.0	6,500.8	1,262.7	1,127.3	165.6	89.28
54.9	24.0	6,478.6	1,317.6	1,175.7	173.3	89.23
54.9	25.0	6,456.3	1,372.5	1,223.7	181.0	89.16
54.9	26.0	6,434.0	1,427.4	1,272.1	188.8	89.12
54.9	27.0	6,411.8	1,482.3	1,319.4	196.5	89.01
54.9	28.0	6,389.5	1,537.2	1,366.3	204.2	88.88
54.9	29.0	6,367.3	1,592.1	1,412.9	211.9	88.75
54.9	30.0	6,345.0	1,647.0	1,459.1	219.6	88.59
54.9	31.0	6,322.7	1,701.9	1,505.0	227.3	88.43
54.9	32.0	6,300.5	1,756.8	1,550.5	235.0	88.26
54.8	33.0	6,278.2	1,808.4	1,596.3	242.8	88.27
54.8	34.0	6,256.0	1,863.2	1,641.1	250.5	88.08
54.8	35.0	6,233.7	1,918.0	1,685.5	258.2	87.88

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
54.8	36.0	6,211.4	1,972.8	1,729.6	265.9	87.67
54.8	37.0	6,189.2	2,027.6	1,773.3	273.6	87.46
54.8	38.0	6,166.9	2,082.4	1,816.6	281.3	87.24
54.8	39.0	6,144.7	2,137.2	1,860.3	289.1	87.04
54.8	40.0	6,122.4	2,192.0	1,902.9	296.8	86.81
54.8	41.0	6,100.1	2,246.8	1,945.1	304.5	86.57
54.8	42.0	6,077.9	2,301.6	1,987.1	312.2	86.33
54.8	43.0	6,055.6	2,356.4	2,028.6	319.9	86.09
54.8	44.0	6,033.4	2,411.2	2,069.8	327.6	85.84
54.8	45.0	6,011.1	2,466.0	2,111.3	335.4	85.62
54.8	46.0	5,988.8	2,520.8	2,151.7	343.1	85.36
54.8	47.0	5,966.6	2,575.6	2,191.9	350.8	85.10
54.8	48.0	5,944.3	2,630.4	2,231.6	358.5	84.84
54.8	49.0	5,922.1	2,685.2	2,271.0	366.2	84.58
54.8	50.0	5,899.8	2,740.0	2,310.0	373.9	84.31
54.8	51.0	5,877.5	2,794.8	2,348.7	381.6	84.04
54.8	52.0	5,855.3	2,849.6	2,387.7	389.4	83.79
54.8	53.0	5,833.0	2,904.4	2,425.6	397.1	83.51
54.8	54.0	5,810.8	2,959.2	2,463.2	404.8	83.24
54.7	55.0	5,788.5	3,008.5	2,500.5	412.5	83.11
54.7	56.0	5,766.2	3,063.2	2,537.3	420.2	82.83
54.7	57.0	5,744.0	3,117.9	2,573.9	427.9	82.55
54.7	58.0	5,721.7	3,172.6	2,610.6	435.7	82.29
54.7	59.0	5,699.5	3,227.3	2,646.4	443.4	82.00
54.7	60.0	5,677.2	3,282.0	2,681.9	451.1	81.71
54.7	61.0	5,655.0	3,336.7	2,717.0	458.8	81.43
54.7	62.0	5,632.7	3,391.4	2,751.7	466.5	81.14
54.7	63.0	5,610.4	3,446.1	2,786.0	474.2	80.85
54.7	64.0	5,588.2	3,500.8	2,820.6	482.0	80.57
54.7	65.0	5,565.9	3,555.5	2,854.3	489.7	80.28
54.7	66.0	5,543.7	3,610.2	2,887.6	497.4	79.98
54.7	67.0	5,521.4	3,664.9	2,920.5	505.1	79.69
54.7	68.0	5,499.1	3,719.6	2,953.0	512.8	79.39
54.7	69.0	5,476.9	3,774.3	2,985.3	520.5	79.09
54.7	70.0	5,454.6	3,829.0	3,017.7	528.3	78.81
54.7	71.0	5,432.4	3,883.7	3,049.2	536.0	78.51
54.7	72.0	5,410.1	3,938.4	3,080.3	543.7	78.21
54.7	73.0	5,387.8	3,993.1	3,111.0	551.4	77.91
54.7	74.0	5,365.6	4,047.8	3,141.5	559.1	77.61

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
54.7	75.0	5,343.3	4,102.5	3,171.5	566.8	77.31
54.6	76.0	5,321.1	4,149.6	3,201.3	574.5	77.15
54.6	77.0	5,298.8	4,204.2	3,231.1	582.3	76.85
54.6	78.0	5,276.5	4,258.8	3,260.1	590.0	76.55
54.6	79.0	5,254.3	4,313.4	3,288.7	597.7	76.24
54.6	80.0	5,232.0	4,368.0	3,316.9	605.4	75.94
54.6	81.0	5,209.8	4,422.6	3,344.9	613.1	75.63
54.6	82.0	5,187.5	4,477.2	3,372.4	620.8	75.32
54.6	83.0	5,165.2	4,531.8	3,400.1	628.6	75.03
54.6	84.0	5,143.0	4,586.4	3,426.9	636.3	74.72
54.6	85.0	5,120.7	4,641.0	3,453.4	644.0	74.41

nl = rpm with no load

lo = current with no load

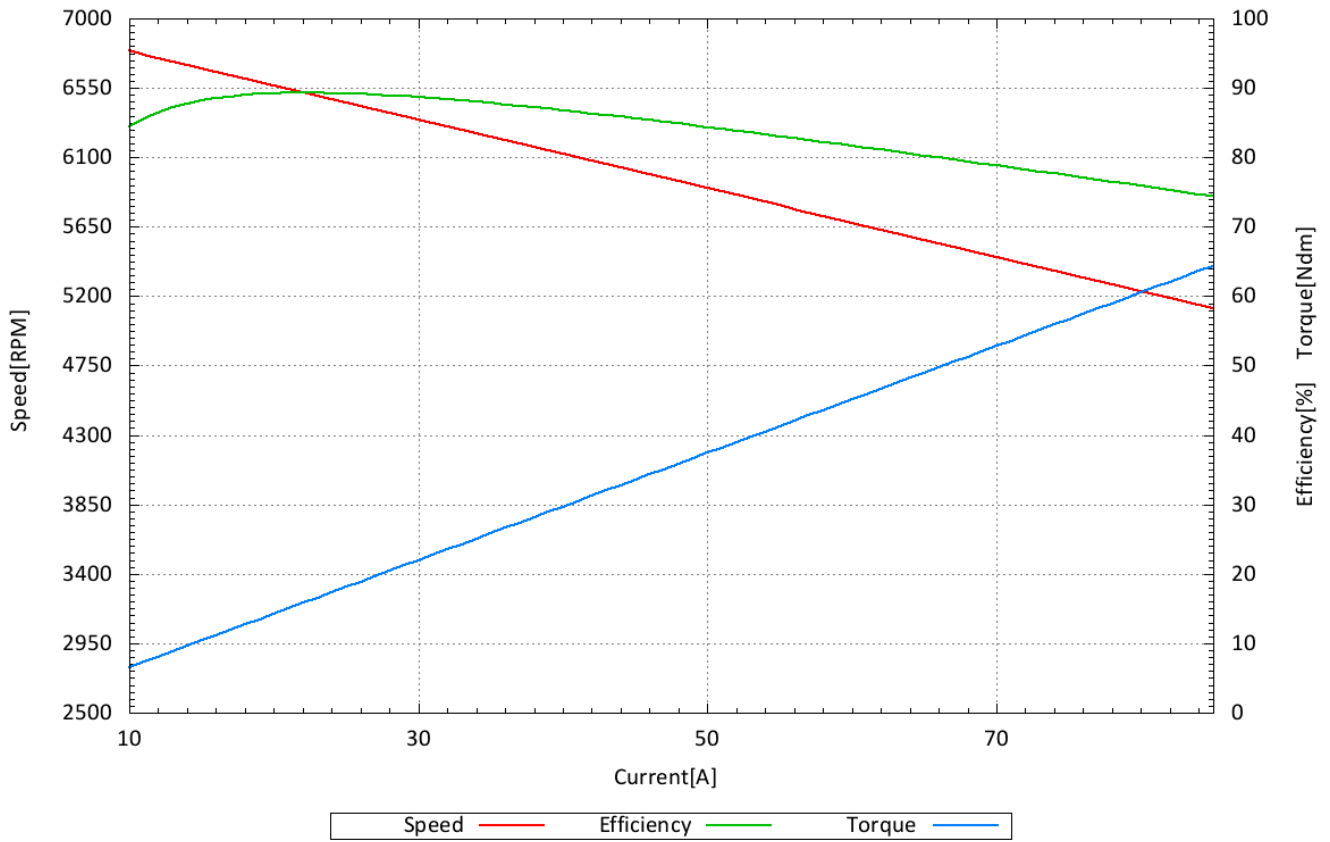
kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP430_50_B10_P20_55V_05032024



Report calculated on Test Bench Results

Motor type: **ADVANCE 5-50-B10 P20**

Date: 05.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **60.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 7,568.3 [RPM] lo: 2.0 [A] kv: 126.9 [RPM/V] kn: -23.39 [RPM/A] kT: 7.72 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
59.9	10.0	7,381.7	599.0	476.2	61.6	79.49
59.9	11.0	7,358.3	658.9	534.0	69.3	81.04
59.9	12.0	7,334.9	718.8	591.4	77.0	82.28
59.9	13.0	7,311.5	778.7	648.5	84.7	83.28
59.9	14.0	7,288.1	838.6	706.0	92.5	84.18
59.9	15.0	7,264.8	898.5	762.3	100.2	84.84
59.9	16.0	7,241.4	958.4	818.2	107.9	85.37
59.9	17.0	7,218.0	1,018.3	873.8	115.6	85.81
59.9	18.0	7,194.6	1,078.2	929.0	123.3	86.16
59.9	19.0	7,171.2	1,138.1	984.5	131.1	86.51
59.8	20.0	7,147.8	1,196.0	1,038.9	138.8	86.87
59.8	21.0	7,124.4	1,255.8	1,093.0	146.5	87.04
59.8	22.0	7,101.0	1,315.6	1,146.7	154.2	87.16
59.8	23.0	7,077.6	1,375.4	1,199.9	161.9	87.24
59.8	24.0	7,054.3	1,435.2	1,253.6	169.7	87.35
59.8	25.0	7,030.9	1,495.0	1,306.2	177.4	87.37
59.8	26.0	7,007.5	1,554.8	1,358.3	185.1	87.36
59.8	27.0	6,984.1	1,614.6	1,410.1	192.8	87.33
59.8	28.0	6,960.7	1,674.4	1,461.5	200.5	87.28
59.8	29.0	6,937.3	1,734.2	1,513.2	208.3	87.26
59.8	30.0	6,913.9	1,794.0	1,563.9	216.0	87.17
59.8	31.0	6,890.5	1,853.8	1,614.2	223.7	87.07
59.8	32.0	6,867.2	1,913.6	1,664.1	231.4	86.96
59.7	33.0	6,843.8	1,970.1	1,713.6	239.1	86.98
59.7	34.0	6,820.4	2,029.8	1,763.4	246.9	86.88
59.7	35.0	6,797.0	2,089.5	1,812.2	254.6	86.73

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
59.7	36.0	6,773.6	2,149.2	1,860.6	262.3	86.57
59.7	37.0	6,750.2	2,208.9	1,908.6	270.0	86.40
59.7	38.0	6,726.8	2,268.6	1,956.9	277.8	86.26
59.7	39.0	6,703.4	2,328.3	2,004.1	285.5	86.08
59.7	40.0	6,680.0	2,388.0	2,051.0	293.2	85.89
59.7	41.0	6,656.7	2,447.7	2,097.5	300.9	85.69
59.7	42.0	6,633.3	2,507.4	2,143.7	308.6	85.49
59.7	43.0	6,609.9	2,567.1	2,190.1	316.4	85.31
59.7	44.0	6,586.5	2,626.8	2,235.4	324.1	85.10
59.6	45.0	6,563.1	2,682.0	2,280.4	331.8	85.03
59.6	46.0	6,539.7	2,741.6	2,325.0	339.5	84.81
59.6	47.0	6,516.3	2,801.2	2,369.2	347.2	84.58
59.6	48.0	6,492.9	2,860.8	2,413.8	355.0	84.37
59.6	49.0	6,469.5	2,920.4	2,457.2	362.7	84.14
59.6	50.0	6,446.2	2,980.0	2,500.4	370.4	83.90
59.6	51.0	6,422.8	3,039.6	2,543.1	378.1	83.66
59.6	52.0	6,399.4	3,099.2	2,585.4	385.8	83.42
59.6	53.0	6,376.0	3,158.8	2,628.0	393.6	83.20
59.6	54.0	6,352.6	3,218.4	2,669.6	401.3	82.95
59.6	55.0	6,329.2	3,278.0	2,710.8	409.0	82.70
59.6	56.0	6,305.8	3,337.6	2,751.6	416.7	82.44
59.6	57.0	6,282.4	3,397.2	2,792.1	424.4	82.19
59.5	58.0	6,259.0	3,451.0	2,832.8	432.2	82.09
59.5	59.0	6,235.7	3,510.5	2,872.6	439.9	81.83
59.5	60.0	6,212.3	3,570.0	2,911.9	447.6	81.56
59.5	61.0	6,188.9	3,629.5	2,950.8	455.3	81.30
59.5	62.0	6,165.5	3,689.0	2,989.4	463.0	81.03
59.5	63.0	6,142.1	3,748.5	3,028.2	470.8	80.78
59.5	64.0	6,118.7	3,808.0	3,066.0	478.5	80.51
59.5	65.0	6,095.3	3,867.5	3,103.4	486.2	80.24
59.5	66.0	6,071.9	3,927.0	3,140.5	493.9	79.97
59.5	67.0	6,048.6	3,986.5	3,177.2	501.6	79.70
59.5	68.0	6,025.2	4,046.0	3,214.1	509.4	79.44
59.5	69.0	6,001.8	4,105.5	3,250.0	517.1	79.16
59.5	70.0	5,978.4	4,165.0	3,285.5	524.8	78.88
59.4	71.0	5,955.0	4,217.4	3,320.7	532.5	78.74
59.4	72.0	5,931.6	4,276.8	3,355.5	540.2	78.46
59.4	73.0	5,908.2	4,336.2	3,390.5	548.0	78.19
59.4	74.0	5,884.8	4,395.6	3,424.5	555.7	77.91

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency ¹ [%]
59.4	75.0	5,861.4	4,455.0	3,458.2	563.4	77.62
59.4	76.0	5,838.1	4,514.4	3,491.5	571.1	77.34
59.4	77.0	5,814.7	4,573.8	3,524.4	578.8	77.06
59.4	78.0	5,791.3	4,633.2	3,557.5	586.6	76.78
59.4	79.0	5,767.9	4,692.6	3,589.6	594.3	76.50
59.4	80.0	5,744.5	4,752.0	3,621.4	602.0	76.21
59.4	81.0	5,721.1	4,811.4	3,652.8	609.7	75.92
59.4	82.0	5,697.7	4,870.8	3,683.8	617.4	75.63
59.4	83.0	5,674.3	4,930.2	3,715.0	625.2	75.35
59.3	84.0	5,650.9	4,981.2	3,745.3	632.9	75.19
59.3	85.0	5,627.6	5,040.5	3,775.2	640.6	74.90

nl = rpm with no load

lo = current with no load

kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

¹ incl. Controller

HP430_50_B10_P20_60V_05032024

